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Distribution Numerical, Raising Smoke and Contamination Condense Distribution Stimulating in Chimney Exit

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ABSTRACT: Today distribution method and atmospheric contamination emission muddling is vulnerable in city region because industrial units grow in underdeveloped countries and contaminated produced by this units. Atmospheric contaminated distribution muddling is method for estimate concentration level and contaminated concentration in different interval relative to emission source. This practice is restricted to step after events occurring without proper administering these programs and we have more timely and monetary cost. In this paper investigate concentration distribution study from 2 dimensional and non-permanent states in land surface. If there is barrier in front of chimney ,there is more contaminated gas distribution after chimney and maximum contaminated density is less in earth. When there are 3 chimney, There is no effect on contaminated density maximum distance. But in situation there is barrier in front of chimney, this distance is 1000 meter next to chimney. Earth atmosphere attack all kinds of contaminated due to industrial grow development and citizen grow. Modeling and investigating this contaminated distribution in environment surface uneven and kind of cover has basic role in contaminating distribution method because inhalator this contaminated in soil and ware have non-compensate damage to environment. One of the major concerns of industries is their effects on environment and sustainable development trend.

KEYWORDS: distribution method, Atmospheric contaminated, chimney, density, compensate-Non, Surface.

INTRODUCTION

Earth atmosphere attack all kinds of contaminated due to industrial grow development and citizen grow. Modeling and investigating this contaminated distribution in environment surface uneven and kind of cover has basic role in contaminating distribution method because inhalator this contaminated or their attract in soil and ware have non-compensate damage to environment. One of the major concerns of industries is their effects on environment and sustainable development trend. Air pollution by factories chimneys are of the major contaminated material. There are more study for measuring and investigating modeling aid to investigate different parameters change effect on contaminated produce and emission [1].

REVIEW

Cauchy et al pay attention to numerical modeling of exit steam in cooler- tower. They investigate steam column behavior. And also they study wind speed, Environment temperature and relative humidity effect on steam column distribution method. Result of numerical modeling has consistency to empirical results. Konink and Mokhtarzadeh investigate floating smoke column exit of multi-exit chimney. In atmospheric boundary layer ,base of this study is momentum and energy

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equation solving. They use cfx-4 software for networking. The temperature of this column is 100°C more than ambient Turbulence model is k-ε.[2,4,5,6,9,11,13] Results of multi exit chimney caparisoned with one exit chimney under identical exit situation for Debi, Momentum and temperature. There are clear differences in speed fields and temperature in first stage. But in this paper don't investigate atmospheric temperature change with elevation. Brown and filcher investigate smoke of one refinery chimney. They use cfx-5 and cfx-4 software's for solve slope networking. But don't pay attention to floating –effect. They use of grid adaption for area with high radian and use standard log profile for air speed enter. Turbulence model was k-ε burnet et al investigated experimentally exit smoke column distribution of chimney And use even temperature profile. They say temperature difference between smoke column and air is insignificant. And investigated elevation, chimney diameter and speed ratio of exit smoke to chimney effect [15,16,17,18 ,13 ,12] .They show the more chimney elevation or speed ratio of output smoke column of chimney is more than wind speed, level of concentration is less in earth surface [22,23,25,26,27].

Over camp study smoke column rising of one-point or multi-point source ,He considered sustain atmosphere situation and floating effects. Enter air speed profile followed of power law. He obtains unethical relation for smoke column rising with relationship between floating flow changes with time and sustain parameter. Sampayo et al investigated pollution emission due to nuclear refinery. Bases of this investigation are solving momentum, energy and concentration equations. They investigate 3 different states. With no barrier or building near Powerhouse and zero temperature difference between contamination and ambient temperature. 3-Be barrier or building near Powerhouse and non-zero temperature difference between contaminated and ambient temperature. In this project use fluent business software for study output warm smoke column emission of one chimney in 2 aspect state ,for applying flouncy force to problem, gravitas acceleration in vertical is 9181. The geometries are: many chimneys next to each other, one chimney, and one barrier behind and in front of chimney present building in chimney proximity. Also 2 No, Co contaminated considered as exit gas of chimney. Temperature in earth surface is 25°C and exit gas temperature is 125°C and atmosphere situation is null. Null situation apply to solve enter as on temperature UDF. Enter air speed to solve slope apply to problem as experimental log [31,32,29,45,44,46,33,34].

PROFILE

Turbulence distribution

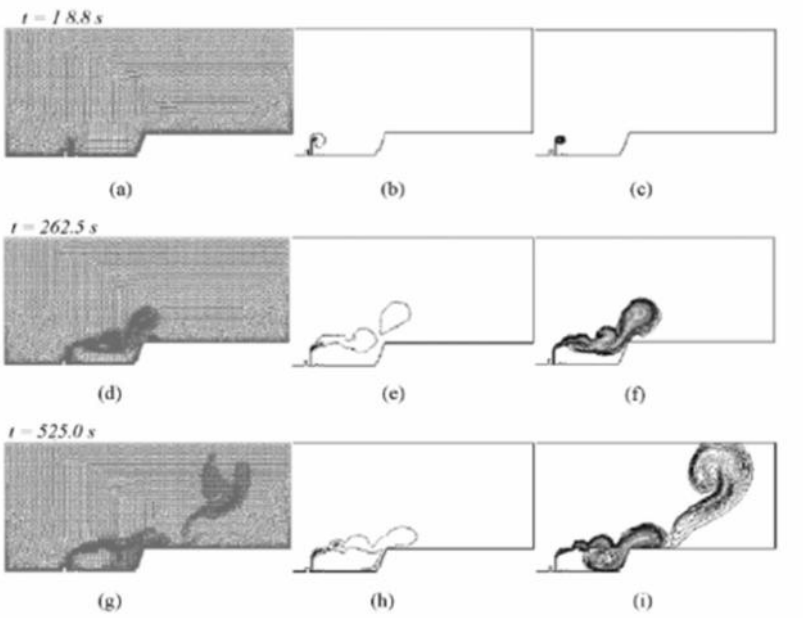


Figure 1 state wind speed profile in proximity of land

Speed change relative to elevation is function of earth surface. Speed change relative to elevation is function of daytime. Air flow is like one turbulence flow and its turbulence show with one irregular movement. This irregular movement is very big in atmosphere. In the day sun heat lead to thermal turbulence and so turbulence composition layer increased and as result wind profile is even relative to slope. Another kind is mechanical turbulence and generated from air movement in artificial or natural level. When there is intense wind, it's expected atmosphere air mixed by mechanical turbulence. We could see earth effect on wind speed profile lead to air flow homogeneity while level in even and speed profile has sharp slope in earth surface. There is more mechanical turbulence in uneven surfaces. And wind speed cross-section has fewer slopes and

progressed to atmosphere with more deep. Air unleveled movement effect is very important for pollution diluted. If mass of air transferred of one level to other level, this mass contains momentum and thermal energy and also battier everything of pollution sources. So smoke distributed in vertical and horizontal trend by turbulence. The effect of air unregularly movement shows on smoke column. Very large unregularly movement accompany by thermal turbulence and appearance in sunny evening. And lead to smoke column big motion with less distribution. Small unregularly motion increase gradually smoke column unregularly motions. Irregular motion witch their values are equal smoke column have the most effects on smoke column distribution. Fortunately atmosphere has irregular motion with different sizes and smoke columns distributed like one complex way in wind trend. Earlier discussion about turbulence in planet boundary layer z=0 to z=z state by slide. We described wind speed profile by powers rule. One of these profiles is as below [5,6,7,8].

$$\frac{\sigma_z}{\sigma_0} = \left(\frac{z}{z_0}\right)^n \qquad (1)$$

In 1-2 relation, n value change %12 to %15 base on atmospheric situation. One flat plate match by $\frac{1}{7}$ power and n=/14. For one even level estimated $\frac{1}{7}$ value by decrease atmosphere temperature. In 2figures and (a) smoke column distributed in one small irregular movement field. One smoke column moved in one relatively straight trend in one assumed field with small turbulence movement. And its cross-section increase gradually. If this movement are very big in comparison very big smoke column aspects and smoke column size grow very little but will have wide complicated trend. In figure 3 and in (c) smoke column distributed in irregular movement field ,day common air with irregular movement is very different. Also smoke column grow as progressed in wind motion trend and become complicated [39,38,40,41,42,43].

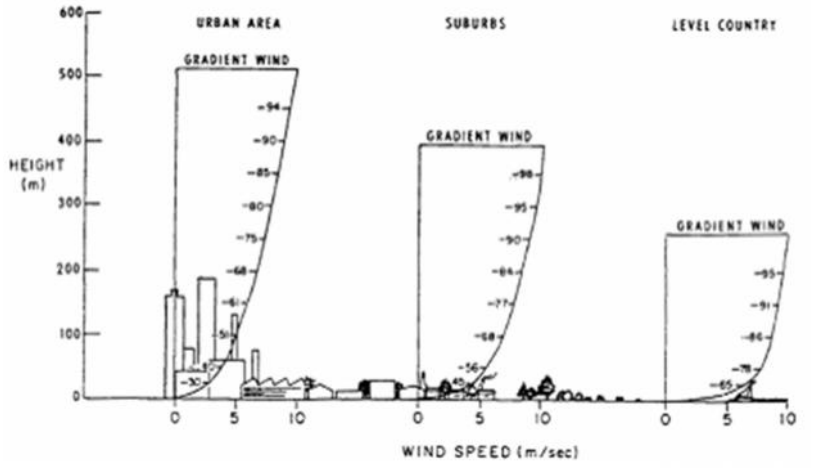


Figure 2 Effect of surface roughness on the velocity

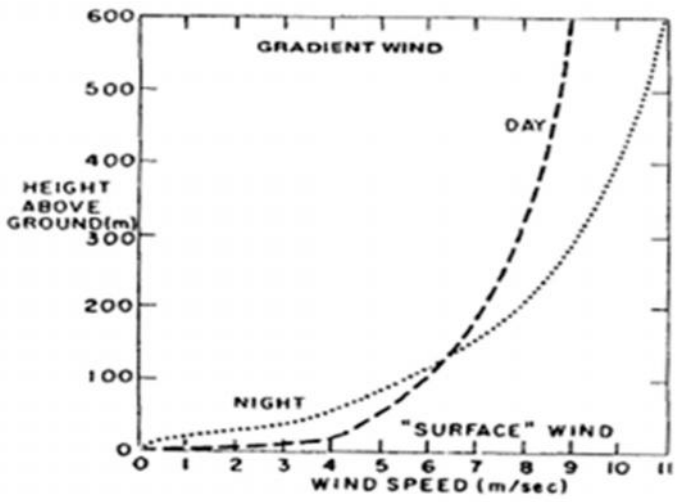


Figure 3 shows the variation of velocity with respect to the height of the day or night.

Separated flows

One of artificial effect is mechanical turbulence and generated under city building effect with different elevation. Separated flow near building lead to condense pollution in downstream. Figure 4shows sample of one separated trend around one cylinder [1] .

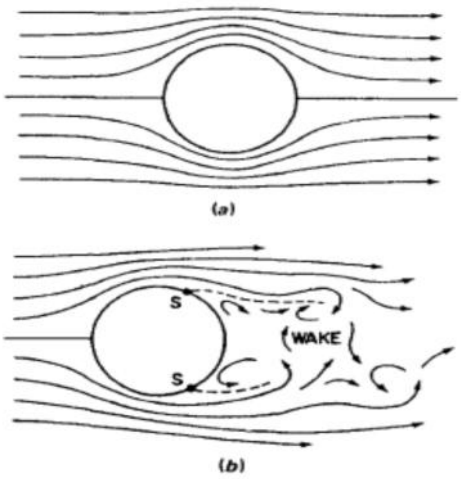


Figure 4 : Flow about cylinder. (1) There is no viscosity (B) (There is viscosity and flow separated)

Flow lines moved very simple about frame if there is no viscosity and flow symmetry in both side of object. But we know movement is not symmetry about cylinder and flow separated. But the speed of flow is low in back of cylinder. And large irregular movement separated of cylinder well. And a circular flow of Carmon with remolded number is 60 to 500. Also separating flow in back of cylinder or chimney lead to enclosed material flax in separated region. So its possible smoke column don't exceed chimney tip or it turn to down and behind of chimney while output material speed is equal or less than ambient air speed [19,20,30,40,46].

Figure (5) show flow situation.

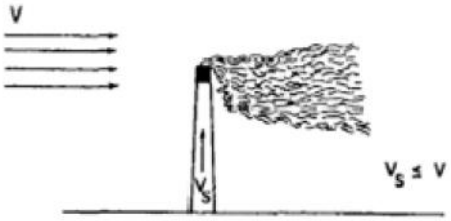


Figure (5) flow in separation space of one chimney.

There are similar flow average flows on top of building. Below figure show this case [3,4,5].

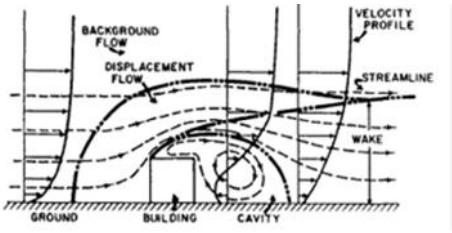


Figure 6 Flow average about building

Separated flow create big hole in back of building. In hole flow is inverse, so pollutions emission big downturn sources will carry to up-turn wind flow if emission in flow separated space. Pollution reaches to whole maintain for time, because composition between major flow and present flow is very slow. Also flow separated can be behind one hill or in valley.

Figure 7Separated flow cases

Figure 7Shows what occur if separated hole and trial in back of building block smoke column emission of up-trod source. In (a) smoke column don't enter to hole but enter to trial. Also dispersion to down increase due to composition in trial , Turbulence In (b) smoke column enter to front and as result.

Make more condense polluted material in trial and back of building. Factory designers engineers should be certain they don't reach smoke column to building stern state chimney situation on building or near building according to experimental rule should be such chimney height are more than 2/5 times of building height [19,29,38,39].

(2-2) $$H_s \geq 2.5H_b$$

Halitski discussed gas pollution dispersion near building and present information about flow pattern about building.

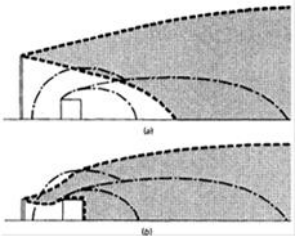


Figure 8 separation effects in smoke column dispersion

TEMPERATURE IN THE ATMOSPHERE

Change temperature with height has significant effect on pollution movement for example thermal inverse situation lead to pollution composition bound in vertical trend. Turbulence value is function of temperature decrease with elevation. From static force balance on one Elman of air in dz height and da cross-section level:

(3-2) $$\sum F = 0$$

$$\frac{\rho g dA dz}{g_c} = -dp\, dA \rightarrow dp = -\frac{\rho g\, dz}{g_c}$$

Because always p is positive, Positive dz lead to negative dp. We should know about how ρ change with p or z, because we obtained integral of this relation. We know $P = \rho RT$ is voluble equation for air situation [2,3,4,5].

(4-2) $$dp = -\frac{\rho g\, dz}{g_c}$$

$$\int_{P_1}^{P_2} \frac{RT}{g}\frac{dP}{P} = -\int_{Z_1}^{Z_2} dZ \rightarrow z_2 - z_1 = \int_{P_1}^{P_2} \frac{RT}{g}\frac{dP}{P}$$

We should determine how temperature changed with height. In earlier estimation we assumed atmosphere didn't changes by elevation and are isothermal so we have.

(5-2) $$\ln\frac{P_2}{P_1}(z_2 - z_1)\frac{g}{RT}$$

If earth level is assumed Z_1=0:

(6-2) $$P_2 = P_1 e^{\frac{-z_2 g}{RT}}$$

Because T is constant, this model leads to relationship which pressure decrease as function of elevation as log. Also in this model required to infinite elevation for reach to zero pressure. And also we know this thing is not really. We can use better model by assuming air create of layers that temperature different but temperature is homogenous in every day.

Also there is one isothermal atmosphere for n=1 and one isentropic atmosphere for n=14. It means a trophy is function of constant height. If PV^n is constant and air has properties of complete gas, we should found relationship between P&T.

(8-2) $$P_1^{\frac{1}{n}} v_1 = P_2^{\frac{1}{n}} v_2$$

(9-2) $$P_1^{\frac{1}{n}} \frac{RT_1}{P_1} = P_2^{\frac{1}{n}} \frac{RT_2}{P_2} \rightarrow T_1 \left(\frac{P_1}{P_2}\right)^{\frac{n-1}{n}}$$

By inverse equality right side and generality T_2 to T and P_2 to P

(10-2) $$T = T_1 \left(\frac{P}{P_1}\right)^{\frac{1-n}{n}}$$

With substitute 10-2 in 2-4

(11-2) $$\int_{P_1}^{P_2} RT_1 \left(\frac{P}{P_1}\right)^{\frac{n-1}{n}} \frac{1}{g} \frac{dP}{P} = Z_2 - Z_1$$

After integrating, we obtain 12-2 relation

(12-2) $$Z_2 - Z_1 = \frac{n}{n-1} RT_1 \frac{1}{g} \left[1 - \left(\frac{P_2}{P_1}\right)^{\frac{n-1}{n}}\right]$$

So temperature lineal decreased relative to elevation or slope $-\frac{(n-1)g}{nR}$ decrease temperature with elevation called lapse rate. Temperature decrease speed is -3/5$^{\circ}F$ in every 1000 foot or %65$^{\circ}C$ in every 100 meter in normal or standard atmosphere of USA. We have below relation for match this value of decrease temperature.

(13-2) $$\frac{-3.5}{1000} = -\left(\frac{(n-1)g}{nR}\right)$$

$$for\ Air\ \ R = 53.34\ {}^{ft-lb}/_{lbm-{}^{\circ}R}\left(or\ R={}^{1.986}/_{M_i}={}^{0.0686\,cal}/_{g-{}^{\circ}K}\right)$$

$$\frac{n-1}{n} = 0.186 \rightarrow n = 1.23$$

Now we want know polytrophic atmosphere reach to want elevation by n=1, 2, 3? We see of 8-2 equation if P_2=0, $Z_2 = \frac{nRT}{(n-1)g}$ or it will be Z_2=50 km. Atmosphere beneath layer boundary is 12km height in average geographical width. Also this elevation is more in equator and less in pole. In troposphere n=1/2[2] is good estimation stratosphere is above troposphere and troposphere and in this region temperature is relatively constant and n=1.

Adiabatic state is indeed atmosphere but commonly called it adiabatic and is very important and n=1/4.

(14-2) $$n = K = \frac{C_P}{C_v}$$

$$\frac{dT}{dz} = \frac{-g}{C_P} = \frac{-\left(9.8\frac{m}{sec^2}\right)\left(28.97\frac{g}{g-mol}\right)}{\left(6.75\frac{cal}{g-mol^{\circ}K}\right)\left(4.186\frac{kg\,m^2}{cal\,sec^2}\right)} \times \frac{1}{1000\frac{g}{kg}} = -0.0098\frac{^{\circ}C}{m} \cong -0.01\frac{^{\circ}C}{m}$$

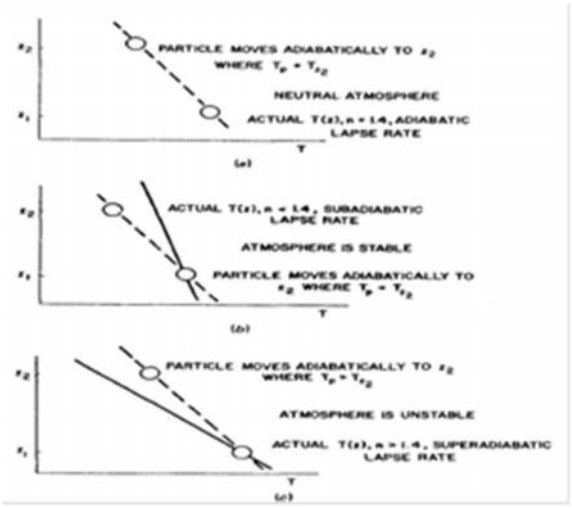


Figure 9kind of ambient temperature decrease value

Meteorologist use potential temperature and is temperature on dry air mass reach to its earlier temperature to standard pressure. Considered one case of temperature with adiabatic temperature decrease value ,so temperature decrease value is static potential temperature in adiabatic state

Inversion

We know every air mass that temperature decrease level to elevation $\frac{dT}{dz}$ is great then $\frac{dT}{dz}$ and adiabatic is stable. Inversion situation lead to on stable atmosphere. Consequently make on radiation inversion in right and remove in morning. We see this phenomenon in goy of morning in dessert area like southwest of America. Radiation inversion removed by cloud because earth radiate to warm cloud. Also intense wind decrees this kind of inversion, because turbulent make with wind remove thermal guardians [21,22,23,24,25,26].

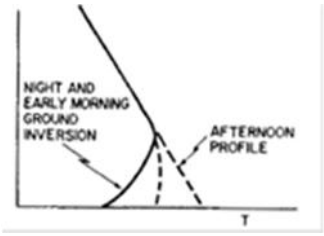


Figure 10: Thermal inversion during day

Inversions are in median elevation due to air mass leakage and unfortunately stay for several days. Air leakage with 1000 meter speed ,when air goes to low level and more pressure become warmer and pressed ,Air near to earth less leakage and less affected. It's possible this process considered as one adiabatic series with n=1/4. And temperature increased to above local temperature curve level before leakage [17,18].

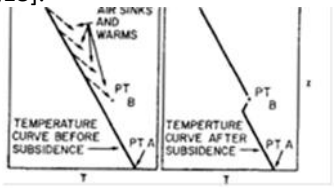


Figure 11: Air Subside inversion lead to warming above earth

Because sky with no cloud feature with high pressure regions, its possible one radiation inversion create in earth surface

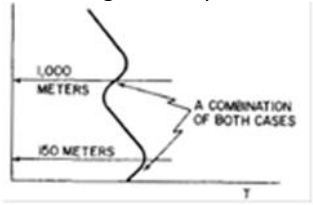
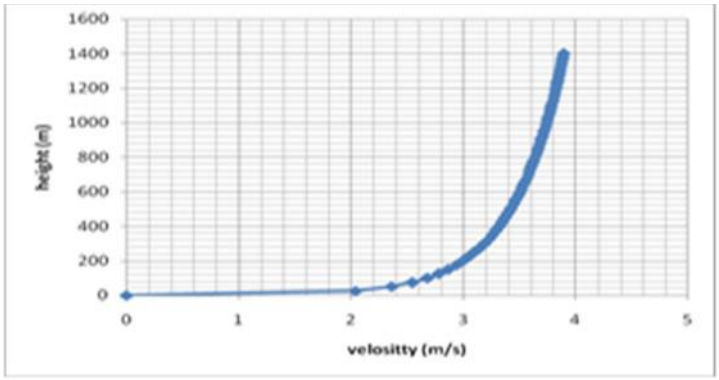


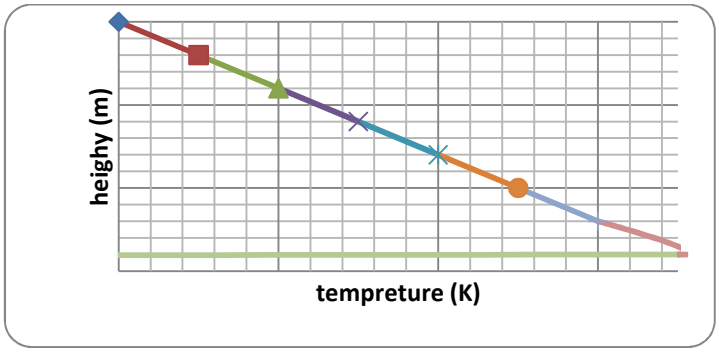
Figure 12: Composition inversion

There are other kinds of inversion. Sea breeze makes cool air earth level and warmer air in above. Passing one cool or war air lead to inversion

Figure 13 :The temperature inversion at the confluence of warm and cold air masses



Curve 1: Profile of enter air speed to solve slope



Curve 2 : Decrease temperature with elevation

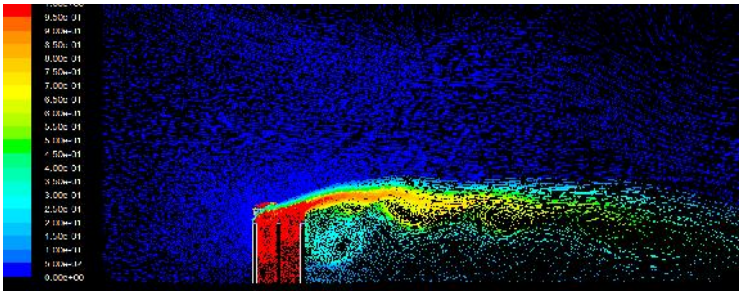


Figure 14: Co_2 flow line in 3 chimneys

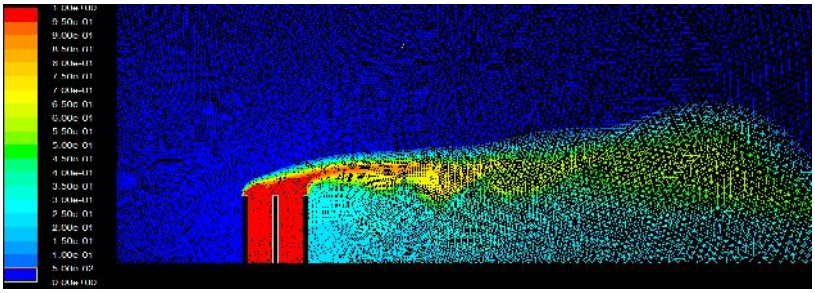


Figure 15: No Concentration contour in 3 chimneys

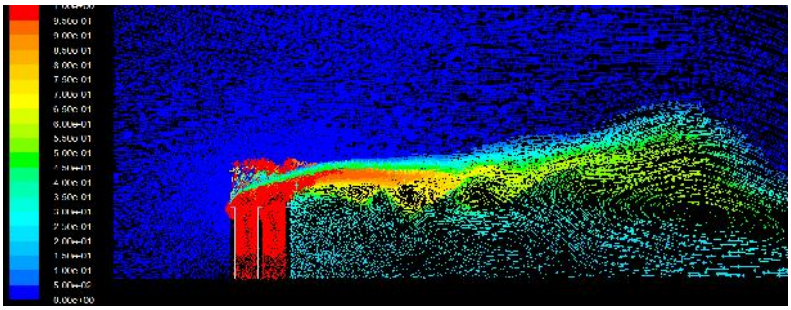


Figure 16: Now flows line in 3 chimneys

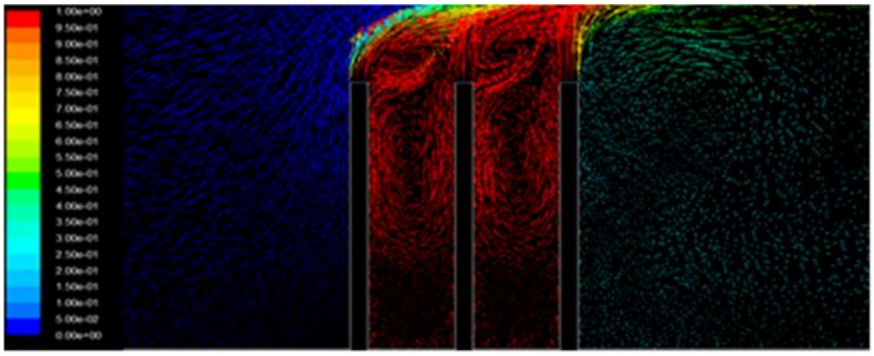
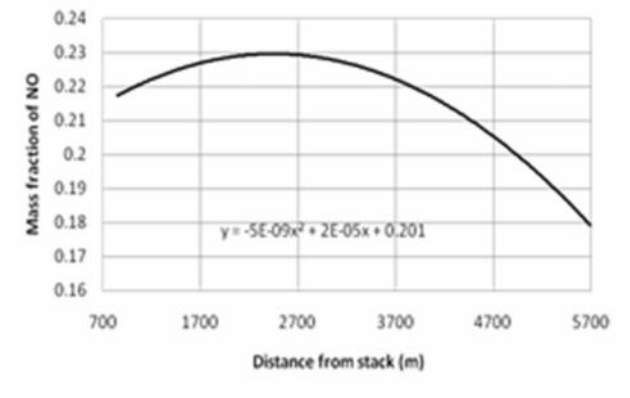
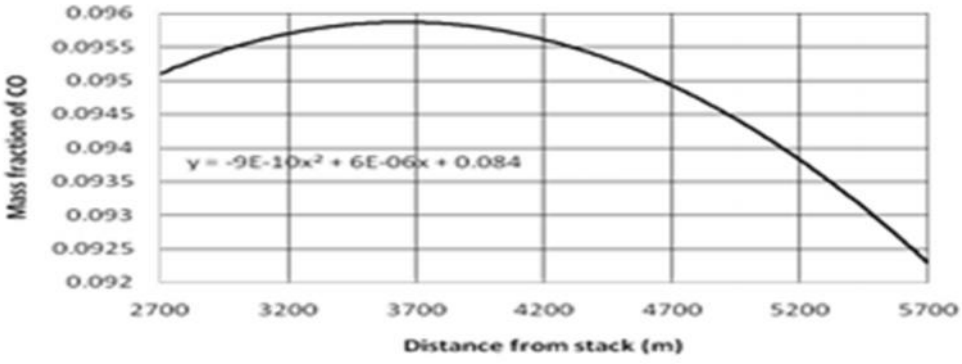


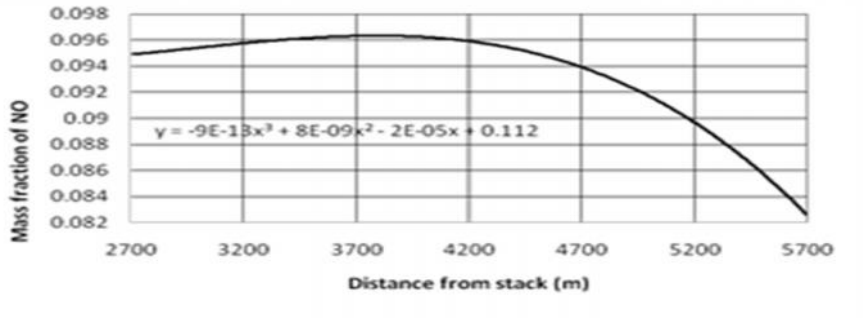
Figure 17Curves: Contamination concentration No on earth level



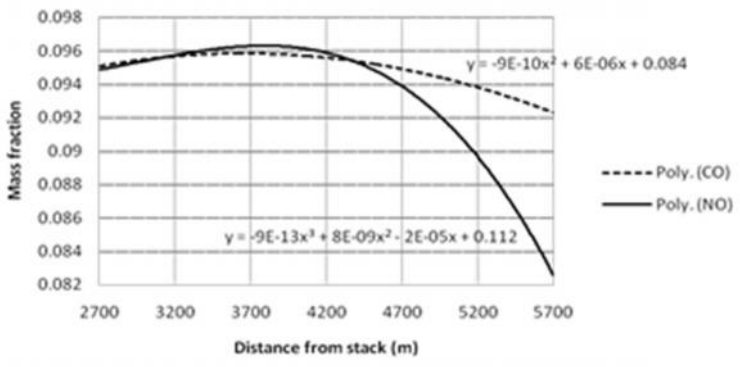
Curve 3 : Contamination concentration Co on earth level



Curve 4: Contamination concentration Co on earth level



Curve 5 : Contamination concentration Co on earth level



Curve 6 : Contamination concentration of Co & No

CONCLUSION

Pollution air dispersion is more in space after chimney and maximum value of pollution concentration is less on earth level while there is barrier in front of chimney. 3 chimneys beside each other have not effect on distance but this distance is 1000 meter next to chimney when there is barrier in front of chimney. In high elevated building is collocate after chimney, contaminated level in building left side is more than right side wall. But in 3 chimneys beside each other and barrier after chimney, Pollution kind has effect on pollution condensation maximum distance. When output pollution of chimney these barrier leads to pollution concentration value don't depend on pollution kind. And concentration graphs of No & Co are reductively identical. But pollution concentration value is more in earth level in 3 chimney and barrier [51,52, 47,48,49,50].

SUGGESTIONS

Below suggestions are useful in completing this project. [1].

1. Investigating inversion phenomenon in atmosphere.
2. Apply pressure change with elevation.
3. Use of other turbulence models like LES & RSM.
4. Investigate dilution effect on smoke column emission and rising.
5. Investigating effect of multi-exit chimney on smoke column raise and emission.

REFERENCES

[1] Samimi, Amir, Zarinabadi, Soroush, "An Analysis of Polyethylene Coating Corrosion in Oil and Gas Pipelines," Journal of American science, U.S.A., 2011

[2] Zarinabadi, Soroush, Samimi, Amir, "Scrutiny Water Penetration in Three-layer Polyethylene Coverage," Journal of American science, U.S.A., 2011

[3] Samimi, Amir. Zarinabadi, Soroush, "Reduction of greenhouse gases emission and effect on environment." Australian journal of basic and applied science, 752-756, 2011

[4] Zarinabadi, Soroush, Samimi, Amir," Problems of hydrate formation in oil and gas pipes deal," Australian journal of basic and applied science, 2011

[5] Zarinabadi, Soroush., Samimi, Amir., Mohammad Sadegh Marouf., "Modeling and Simulation for Olefin Production in Amir Kabir Petrochemical," Proceedings of the World Congress on Engineering and Computer Science 2010, WCECS ,San Francisco, USA , 2010

[6] Samimi, Amir., Zarinabadi, Soroush., "Application Polyurethane as Coating in Oil and Gas Pipelines", International Journal of science and investigations, France, pp.43-45, 2012

[7] Samimi, Amir., Zarinabadi, Soroush., Samimi, Marzieh., "Solar Energy Application on Environmental Protection", International Journal of science and investigations, France, 2012

[8] Samimi, Amir., Almasinia, Babak., Nazem, Esmaeil., Rezaei, Rohollah., Hedayati, Abbas., Afkhami, Mahbobeh.," Investigating MIDEA Corrosion Treatment on Carbonic Simple Steel in Amin Unit of Isfahan Refinery", International Journal of science and investigations, France

[9] Samimi, Amir., "Investigation Results of Properties of Stripe Coatings in Oil and Gas Pipelines", International Journal of science and investigations, France, 2012

[10] Samimi, Amir.," Studying Corrosion Electrochemical Mechanism in Tube Line and Gas Wells", International Journal of science and investigations, France, 2012

[11] Samimi, Amir., "Preventing Hydrate Formation in Gas Transporting Pipe Lines with Synthetic Inhibitors", International Journal of science and investigations, France, pp.48-50, 2012

[12] Samimi, Marzieh., Samimi, Amir., "Non-Climatically Factors Causing Weather Changes", International Journal of science and investigations, France, pp.35-31, 2012

[13] Samimi, Amir, Zarinabadi, Soroush, Setoudeh, Mehrdad, "Experimental Study of Factors Affecting Corrosion in Gas Wells Using Potantio Acetate and Galvan Acetate Tests," International Journal of science and investigations, France, pp.13-16, 2012

[14] Samimi, Amir, Zarinabadi, Soroush, Setoudeh, Mehrdad, Safavian, Amir, "Review Applications to Prevent Corrosion Reducing Gas Pipe Line", International Journal of Basic and Applied science, Indonesia, pp.423-428, 2012

[15] Samimi, Amir, Zarinabadi, Soroush, Setoudeh, Mehrdad, "Safety and Inspection for Preventing Fouling in Oil Exchangers," International Journal of Basic and Applied science, Indonesia, 2012

[16] Samimi, Amir, Zarinabadi, Soroush, "The Comparison of Increasing Method for Petroleum Pits Output (Fluids Dynamic)," International Journal of Basic and Applied science, Indonesia, pp.435-439, 2012

[17] Samimi, Amir., Afkhami, Mahbobeh.,"Check Solution Corrosive a–MEDA on 316 & 304 Stainless Steel in Hydrogen Unit", International Journal of Basic and Applied science, Indonesia, pp.594-604, 2012

[18] Samimi, Amir," Review Applications to Prevent Corrosion Reducing Gas Pipe Line", International Journal of Basic and Applied science, Indonesia, pp.423-428, 2012

[19] Samimi, Amir.," Causes of Increased Corrosion in Oil and Gas Pipelines in the Middle East", International Journal of Basic and Applied science, Indonesia, pp.572-577, 2012

[20] Samimi, Amir., Dokhani, Sepanta., Neshat, Neda., Almasinia, Babak, Setoudeh, Mehrdad, "The Application and New Mechanism of Universal Produce the 3-Layer Polyethylene Coating," International Journal of Advanced Scientific and Technical Research (IJAST), India, 2012

[21] Samimi, Amir, "Normal Paraffin Production Process of Kerosene in Oil Refinery Company", International Journal of Innovation and Applied Studies, ISSN 2028-9324 Vol. 1, Dec. 2012

[22] Samimi, Amir., "Offer a New Model to Prevent Formation of Hydrate in Gas Pipeline in Gas Refinery", International Journal of Innovation and Applied Studies, ISSN 2028-9324, 2012

[23] Samimi, Amir., "Study an Analysis and Suggest New Mechanism of 3 Layer Polyethylene Coating Corrosion Cooling Water Pipeline in Oil Refinery in Iran", International Journal of Innovation and Applied Studies, ISSN 2028-9324 Vol. 1 No. 2 Dec. 2012

[24] Samimi, Amir., "Use of Polyurethane Coating to Prevent Corrosion in Oil and Gas Pipelines Transfer", International Journal of Innovation and Applied Studies, ISSN 2028-9324, 2012

[25] Samimi, Marzieh., Samimi, Amir., "Explotion of Resources Management in Iran", International Journal of Innovation and Applied Studies, ISSN 2028-9324 Vol. 1 No. 2 Dec. 2012
[26] Samimi, Amir., Zarinabadi, Soroush., "Investigation of Corrosion of the Pipeline Using TOEFLT in Iran Refinery", International Journal of Innovation and Applied Studies, ISSN 2028-9324 V, Dec. 2012
[27] Setoudeh, Mehrdad, Samimi, Amir, Zarinabadi, Soroush., Almasinia, Babak., Nazem, Esmaeil., Rezaei, Rohollah., hedayati, Abbas., "Experimental Study of Factors Affecting Corrosion in Gas Wells Using Potantio Acetate and Galvan Acetate Tests", International Journal of science and investigations, 2012
[28] Zarinabadi, Soroush., Samimi, Amir., "Scrutiny Water Penetration in Three-layer Polyethylene Coverage," International Congress of Chemical and Process Engineering , CHISA 2010, and 15 Conference on Process Integration, Modelling and ptimisation for Energy Saving and Pollution,2010
[29] Samimi, Amir., Zarinabadi, Soroush., " Application Solid Polyurethane as Coating in Oil and Gas Pipelines," International Congress of Chemical and Process Engineering , CHISA 2012, and 16 Conference on Process Integration, Modelling and ptimisation for Energy Saving and Pollution,2012
[30] Zarinabadi, Soroush., Samimi, Amir., " Investigation Results of Properties of Stripe Coatings in Oil and Gas Pipelines," International Congress of Chemical and Process Engineering , CHISA 2012, and 16 Conference on Process Integration, Modelling and ptimisation for Energy Saving and Pollution,Check, 2012
[31] Samimi, Amir., "Investigating Corrosion Electrochemical Mechanism in Tuble Lines and Gas Shaft", American Journal of Research Communication (AJRC), U.S.A, 2013
[32] Rezaei, Rohollah., Samimi, Amir., "Effects of Phosphorus and Nitrate in Wastewater Shahinshahr City Use for Oil Refinery", International Journal of Innovation and Applied Studies, ISSN 2028-9324, 2012
[33] Samimi, Amir., Bagheri, Ali.," Studying and Investigation Corrosion in Tube Line and Gas Wells in Oil and Gas Refinery", International Journal of Chemistry; (IJC), Austria, pp27-38, 2013
[34] Samimi, Amir.," Preservation Ways and Energy Consumption in Oil Refinery", International Journal of Chemistry; (IJC), Austria, pp41-47, 2013
[35] Samimi, Amir., Bagheri, Ali.," Investigation of Corrosion in Oil and Gas Pipelines in Southwestern Iran", World of Sciences Journal; (WSJ), Austria, pp114-127, 2013
[36] Samimi, Amir., Bagheri, Ali," Investigating Corrosion Treatment on Carbonic Steel in Amin Unit with TOEFEL Polarization", World of Sciences Journal; (WSJ), Austria, pp128-141, 2013
[37] Samimi, Amir," Micro-Organisms of Cooling Tower Problems and How to Manage them", International Journal of Basic and Applied science, Indonesia, pp.705-715, April 2013
[38] Samimi, Amir., Bagheri, Ali., Dokhani, Sepanta., Azizkhani, Sepehr., Godini, Ehsan., "Use of Polyurethane Coating to Prevent Corrosion in Oil and Gas Pipelines Transfer", International Journal of Innovation and Applied Studies, ISSN 2028-9324, July 2013
[39] Samimi, Amir., Hamid Reza Tajik., Sepehr Azizkhani., Sepanta Dokhani., Ehsan Godini., Babak Almasinia., Marzieh Samimi.," Examine the Effects of Greenhouse Gases on Climate Change", World of Sciences Journal; (WSJ), Austria, pp130-143, Issue: 12, 2013
[40] Samimi, Amir., Hamid Reza Tajik., " Studies on Corrosion Characteristics Protection of Petroleum & Liquid Gas Pipelines", World of Sciences Journal; (WSJ), Austria, pp130-143, Issue: 12, 2013
[41] Bagheri, Ali., Samimi, Amir., Dokhani, Sepanta., Azizkhani, Sepehr., Godini, Ehsan., "Use of Polyurethane Coating to Prevent Corrosion in Oil and Gas Pipelines Transfer", World of Sciences Journal; (WSJ), Austria, pp130-143, Issue: 5, 2013
[42] Honarvar, Bijan , Samimi, Amir "Investigating corrosion mechanism in tube lines and gas shaft," International Congress of Chemical and Process Engineering, CHISA 2014
[43] Samimi, Amir, Samimi, Marzieh," Explosion of resources management in Iran," 21st International Congress of Chemical and Process Engineering, CHISA 2014
[44] Samimi, Amir, "A Normal paraffin production process of kerosene in oil refinery company," 21st International Congress of Chemical and Process Engineering, CHISA 2014
[45] Samimi, Amir, " Study an Analysis and Suggest new Mechanism of 3 layer polyethylene coating corrosion cooling water pipeline in oil refinery in Iran," 21st International Congress of Chemical and Process Engineering, CHISA 2014
[46] Samimi, Amir," Investigate the Interaction between Energy and National Security", National Energy Conference in Iran, Ahvaz, Iran, 2012
[47] Samimi, Amir, Samimi, Marzieh, Zarinabadi, Soroush," Damaging Effects of Pollution on the Environment", First National Environment and Pollutant Conference in Iran, Ahvaz, Iran, 2012
[48] Samimi, Amir, Zarinabadi, Soroush," HSE Management and the Role of that in Iran Petroleum", First National of HSE Conference in Iran, Mahshahr, Iran, 2011

[49] Samimi, Amir," Importance of Occupational Safety Culture in the Oil Industry in Iran", Second National of HSE Conference in Iran, Mahshahr, Iran, 2012
[50] Samimi, Amir," Evaluation of the Safety Management System, Environment and Health in the Oil Industry", Second National of HSE Conference in Iran, Mahshahr, Iran, 2012
[51] Samimi, Amir, Zarinabadi, Soroush, "Need to approach the management of water resources development plan of the Islamic Republic of Iran", 1St National Conference on Water and Wastewater Science and Technology, Ahvaz, Iran, 2012
[52] Samimi, Amir, "Consumption Pattern Reforms in the Energy Sector Development Plan" Modification of cultural consumption, Eslamshahr, Iran, 2012