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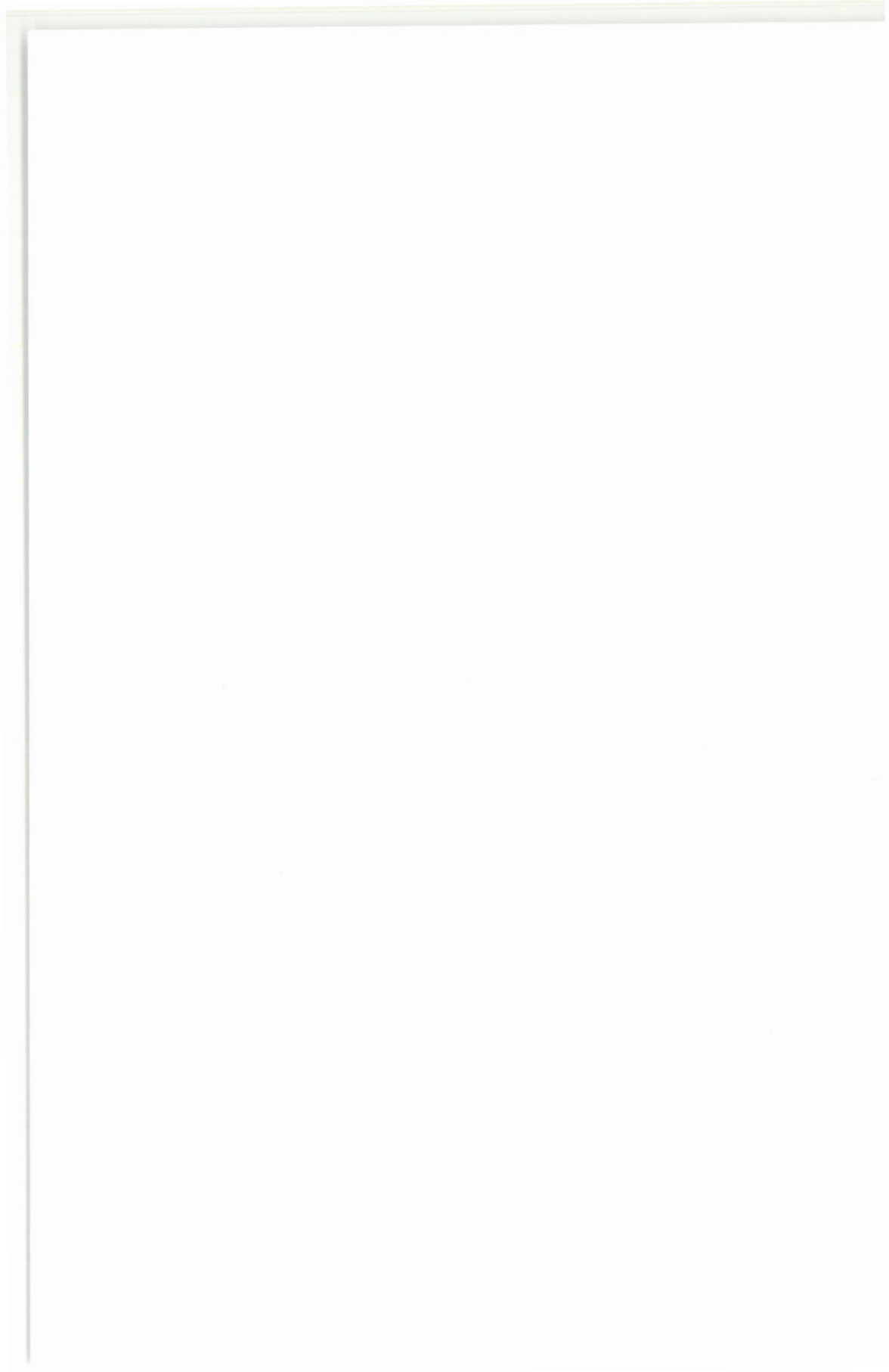
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SUMMARY

THE AGRICULTURE SECTORY OF TURKEY AND E.U.

M.S. ÖZYURT & H. DAYIOĞLU

Abstract. In this study in a period during which adaptation and arrangement studies are intensive from the aspects of political, social and economic. The condition of agricultural sector is described for Turkey's certain member ship to Europe union. The E.U. and Turkey's natural sources, production models and petterns and potential agricultural politics are comparatively evaluated.

Keywords: Europe Unity, Agriculture Statistics.

THE HERBICIDAL EFFECTS OF ALLELOCHEMICALS ON COMMON WEEDS IN KÜTAHYA

Abstract In this study, the effects of juglone, catechol and dopa as allelochemicals and 2,4-D as a synthetic herbicide used in comparison with allelochemicals. The weeds used in this work are *Sinapis arvensis*, *Cirsium arvense*, *Papaver rhoeas* and *Lamium amplexicaule*. Apart from weeds, wheat was also used to compare the effectiveness of the 2,4-D and allelochemicals. Allelochemicals especially catechol and juglone were found to inhibit the growth and chlorophyll contents of weeds but not of the wheat. As a result it has been found that the allelocemicals, juglone and catechol, have herbicidal potential and they may be used as natural herbicides.

Key words: Allelopathy, herbicide, 2,4-D, catechol, dopa, juglone, weeds.

EFFECT OF URBAN WASTEWATER IRRIGATION ON SOME SOIL PROPERTIES AND MINERAL CONTENTS OF MAIZE

A.L. TUNA & B. BÜRÜN

Abstract. The urban wastewater is recycled with the lime stabilization, which can be used as irrigation and fertilization in the agricultural areas. In this study, the urban wastewater which hasn't contained heavy metals after stabilizing by lime has been used in maize plants in Mugla city and the effect of urban wastewater has been researched on the soil and plants nutritional status. According to the results; there hasn't been any changing in the soil pH and other soil parameters (total salt, organic matter and lime as %), but contents of P₂O₅ and K₂O are significantly increased. Applying of urban wastewater to the maize plant in the multiple dosages was caused increasing of macro and micro nutrient content in the leaves of maize plant. The increase in N, P, K, Ca, Mg, Cu, Mn and Zn elements are found to be significant at the level of 1%, however the increase in Na and Fe elements are found to be significant at the level of 5% after statistical analysis. In the results of this studying, it's understood that the urban wastewater will be able to be used in the agricultural area under control.

Keywords : Maize, Nutritional Status, Soil, Urban Wastewater

THE GENERAL VIEW ON THE BEHAVIOUR TRAITS OF BEECH MARTEN (*Martes foina*)

Ahmet Selçuk ÖZEN

Abstract

In this study, it was recorded by evaluating some behaviour traits of *Martes foina*, show distribution in, both in Turkey, in their natural life scopes, and in the laboratory of four samples caught in the cities İzmir, Kütahya and Tekirdağ, between 1996-2002.

Key Words: Behaviour, *Martes foina*

THE FLORA OF BUDAĞAN MOUNTAIN (KÜTAHYA)

Â. TATLI, R. MEMİŞ & A. Z. TEL

Abstract. This investigation was carried out between 1997-98 to determine the flora of Budağan Mountain. Research area is situated in province of Kütahya and within B₂ of the Grid system. In the research area 291 taxa belonging to 50 families and 152 genera were determined. The endemizm rate is 10.7 %. 40 taxa are new for the square B₂. The distribution of taxa according to phytogeographical regions are as follows. Irano - Turanian elements 13.4 %, Mediterranean elements 10.7 %, Europe - Siberian elements 5.5 %. The families which have the most taxa in research area are *Compositae* (49), *Leguminosae* (34), *Labiatae* (22), *Cruciferae* (15) and *Umbeliferae* (14). Concerning the number of species, the major genera in this region are as follows : *Centaurea* L. (8), *Alyssum* L. (7), *Trifolium* L. (7) and *Veronica* L. (7). The distribution of plants according to the life forms terophytes come first with the rate of 42 % in the research area. Hemicryptophytes 32 %, geophytes 12 %, chamaephytes 8 % and phanerophytes are 6 %, respectively.

Keywords: Budağan Mountain, Flora, Kütahya, Türkiye.

EFFECTS OF JUGLONE ON SPEED OF ELONGATION, COTYLEDON OPENING AND PIGMENT CONTENTS OF MUSKMELON SEEDLINGS

I. TERZI & I. KOCAÇALIŞKAN

Abstract. Effects of juglone on speed of elongation and pigment contents of muskmelon (*Cucumis melo* cv. Kış kavunu) were investigated in this study. Speed of root and stem elongation were enhanced by 10⁻³M juglone treated in pregerminative stage but at 10⁻⁴M and 10⁻⁵M were decreased. Chlorophyll a, b and carotenoid contents were increased by 10⁻³M and 10⁻⁵M juglone but they were reduced at 10⁻³M. Cotyledons of the seedlings were not opened by all juglone concentrations treated in pregerminative stage. However, in the seedlings treated with juglone in postgerminative stage, speed of root and stem elongations were decreased by all juglone concentrations. Chlorophyll a, b and carotenoid contents were increased by all juglone concentrations. All the cotyledons were also opened by all juglone concentrations.

Key words: Juglone, Cotyledon, Muskmelon, Chlorophyll, Seedling Elongation.

THE INFLUENCE OF AIR POLLUTION OVER SOME BLOOD PARAMETERS OF ADULT PERSONS IN CENTRUM

M.S.ÖZYURT & H.DAYIOĞLU & A.YAMIK

Abstract. In this study, the blood data of people living in the center of Kütahya where suffers the dense air pollution by regarding the months. In this study in which the values of Hemoglobin, Leucocytes, Hematocryte and Erythrocyte were measured, the most striking differences ($p < 0.01$) were observed among these values by depending upon the genders. In spite the relative and partial differences on all characters by regarding the months, it is not found the difference in statistical meaning. The choosing of the samples by the young and healthy people observed that the air pollution can be tolerated by the organism and the air pollution could not lead the changing in the chemistry of the blood. Nevertheless, it is to bear in mind that the values pertaining to Leucocytes close to the top limit of normal values and it is getting close to the low level values for other characters in risky point.

Keywords: Air Pollution, Blood, Erythrocyte, Hematocryte, Hemoglobin, Leucocytes.

PATOGEN FUNGI DISTRIBUTION IN THE INNER WALL SURFACES OF THE HOUSES AT THE UNIVERSITY OF SAKARYA

K. TUNÇ

Abstract The most of the microorganisms in nature live as facultative, but they can become parasitic or saprotrophic depending on their arrangements. In this study, we took samples from the 60 houses out of 120 located at the university of Sakarya and mold fungi at the faces of walls were isolated and their parasitism distribution was investigated. Mold fungi which were isolated from cultures and fertilized in the airy and inner sides of the houses were detected to be *Alternaria sp.*(7), *Aspergillus sp.*(16), *Fusarium sp.*(3), *Mucor sp.*(5), *Cladosporium sp.*(7), *Rhizopus sp.*(9), *Penicillium sp.*(5), *Trichoderma sp.*(3), *Ulocladium sp.*(5), and *Ventricillium sp.*(5). It has been seen that the most of the mold fungi detected in this study were potential mold fungi.

Keywords; Houses, Mold Fungi, Patogen

AN INVESTIGATION ON THE CRYSTALLOGRAPHIC PROPERTIES OF THE AUSTENITE-MARTENSITE TRANSFORMATION IN Fe-9Mn ALLOY BY

X-RAYS DIFFRACTOMETER METHOD

A.E. ÇALIK & H. Y. OCAK

Abstract; In this study, Fe-9Mn alloy prepared in TÜBİTAK-MAM (Marmara Research Center) was investigated. Four different samples have been prepared to investigate crystallographic properties of this alloy. The crystallographic properties of austenite-martensite phase transformation of samples have been studied with X-rays diffractometer method. It was seen that the lattice parameters of austenite-martensite phases, which was occurred by the external physical effects, did not change depending on physical effects. It was observed Lath type martensite on samples surface.

Key Words : Austenite, Martensite, Lattice Parameter

AN ALTERNATIVE APPROACH AND SOLUTION TO BOLTZMANN EQUATION

K.MANİSA

Abstract. To evaluated transport coefficients in the high temperature region, Boltzmann equation may be used since mean field effects and Pauli blocking are negligible so that the system can be viewed as a dilute gas. In this study, the derivation of Boltzmann equation which can be used for the calculation of transport coefficients of dilute gases was introduced. Boltzmann equation also was solved in the dilute gas.

Key Words : Boltzmann Equation, Dilute Gas, Kinetic Theory

MINKOWSKI DÜZLEMİNDE BİRİNCİ VE İKİNCİ İVME POLLERİ

H. ES

ABSTRACT

In Minkowskian geometry the looked for correspondence for the resultsa about 1-parameter motions which Müller obtained in Euclidean geometry by using matrix methods.

A NOTE ON PAPPIAN AFFINE PLANES

Pınar ANAPA * & İbrahim GÜNALTILI **

Abstract

In (Schmidt and Steinitz,-1996); an affine plane with fixed basis $\{t_1, t_2, 0\}$ is coordinated. Then, a ternary operation T on R which is a set of points on l which is dependent on the coordinate system l_1, l_2, t is defined. In addition, two different binary operation denoted by $+, \bullet$ on R using ternary operation T . After then, it is showed that $(R, +, \bullet)$ is a division ring. In this paper, first of all we examined the relation between (R, T) ternary ring and Desargues postulate in affine plane. After then, we showed that $(R, +, \bullet)$ is field in case affine plane satisfies Pappus Theorem. This results appeared in the first author's Msc thesis.

ON FINITE $\{s-1, s\}$ -SEMI-AFFINE LINEAR SPACES

A. KURTULUŞ *

Abstract

In this paper, We investigate $\{s-1, s\}$ -semiaffine linear spaces with constant point degree. Using only combinatorial techniques we obtaine some results.

GENETIC ALGORITHMS IN ENGINEERING DESIGN OPTIMIZATION

Mühendislik Tasarım Optimizasyonunda Genetik Algoritmalar

Hamit SARUHAN

ABSTRACT

This paper gives a brief introduction and application of genetic algorithms as an efficient optimum design method in engineering design. The study is primarily aimed to expose the potentials of genetic algorithms, to discuss their application capabilities, and to show the concept of these algorithms as optimization techniques and their scope of application by implementing them to the ball bearings. Results obtained for the ball bearings are presented to provide insight into the capabilities of these techniques. Genetic algorithms are efficient search techniques which are inspired from natural genetics selection process to explore a given search space. Genetic algorithms have been increasingly recognized and applied in many applications.

36. DERECEDEDEN GRUPLARIN CAT^1 – GRUPLARININ GAP KULLANILARAK SIRALANMASI¹

Murat ALP & Alper ODABAŞ

Özet

Bu çalışmada, cat^1 grupları ve çaprazlanmış modülleri hesaplayabilmek için, grup teorisi programlama dili olan GAP [11] programı ile yazdığımız bir program paketini [2] sunduk. Bu programda çaprazlanmış modüller ve cat^1 – grupların morfizmlerinin yanı sıra bu morfizimlerin bileşkesini içeren fonksiyonlar yer almaktadır. Ayrıca paket içerisinde çaprazlanmış modüllerin derivation'u ve bir cat^1 – grup'un section'ında yerleştirmiş bulunmaktayız. Çaprazlanmış modüllerin kategorisi **XMod** ile cat^1 – grupların kategorisi **Cat¹** arasındaki eşdeğerlik bağıntısını gerçekleştirecek olan fonktörler de yer almaktadır. Ek olarak bu çalışma, dereceleri 36 olan grupların cat^1 – gruplarının izomorfizmlerin tablo halinde sıralanmasını içermektedir. Küçük dereceden grupların cat^1 – gruplarının izomorfizmleri [1] de verilmiştir. 41-47. dereceden grupların cat^1 – gruplarının izomorfizmleri de [3] de verilmiştir.

CALCULATION OF SLOT LEAKAGE INDUCTANCES IN INDUCTION MACHINES

A. İ. ÇANAKOĞLU & A. G. YETGİN

Abstract. In any magnetic field (B_i , H_i) zone within the induction machines is characterized by its stored magnetic energy (or coenergy). If the magnetic field is generated by a signal current source, then an inductance "translates" the field effects into circuit elements. Besides the magnetic energy related to the magnetization field, there are flux lines that encircle only the stator or the rotor coils. They are characterized by some equivalent inductances called leakage inductances. In this paper, the calculation of inductances for various slot geometries with single and double layers winding based on practical equality are presented.

Keywords: Inductance Calculation, Induction Machines, Slot Geometries

DEVELOPING A LIBRARY AUTOMATION SYSTEM USING AVAILABLE FREE SOFTWARE PLATFORMS

G. KUVAT & A.ÖZMEN

Abstract. Developments in the software world affect libraries as in every part of our daily life. The demand to the libraries and quality of service increases day in day out depending on the need for knowledge. People demand fast information retrieval, contingency etc. However, it is very difficult and complex work to run a library without an automation system. To improve the quality of the search process and to decrease check outs-returns service time all require a computer supported automation system. Such an automation system is now necessary, for not only large libraries but also small and middle scale libraries too. There are some automation systems in the market for large libraries and these systems solve almost all the problems mentioned above. On the other hand, small and middle scale libraries such as faculty, department, high school and local libraries are still far from to afford these expensive automation systems. Therefore, many of them are still run with old-classical way. In this work, a professional automation system has been developed using free software resources. These resources have not very well known yet in the country, and they are very precious for software houses and software developers in universities.

Keywords: Free Software, GNU Project, Library Automation

CABLEBOLTS AND THEIR APPLICATIONS IN MINING

Ö. UYSAL & A. DEMİRCİ & Y. S. DURUTÜRK

Abstract: *As in other production activities, the provision for safety of labour and workplace is the most important and indispensable restriction in underground mining. In this respect, the support has gained a profound importance in providing safety and maintaining suitable place for mining activities.*

This study deals with the results of a literature survey on cablebolts, widely used as support element in underground mining, and with the elaboration on an "explosive based anchorage system" developed by the authors. After providing general information about cablebolts, their method of installation, working principles and field of applications are explained. Additionally a number of examples associated with cablebolt applications in mining are also given.

Keywords: Cablebolt, Explosive-based Cablebolt, Support, Underground Mining

THE MATHEMATICAL MODELLING OF LIQUEFACTION OF NATURAL GAS WITH CLASSICAL CASCADE CYCLE

Kürşat ÜNLÜ - Recep YAMANKARADENİZ

ABSTRACT

Energy consumption, parallel to consequences of the technological developments and rapid increase of population is continuously increasing in the world. Increased energy consumption increase the national expenditures fairly and it leads to environmental pollution. For this reason it is necessary to consider using energy more productively and its varieties which will not effect the environment negatively. Using coal and petroleum leads to environmental damages and this fact causes worries. But now this worries have been decreased by comprehending natural gas reserves and new technologies which increases using natural gas. In this study we investigated liquefaction process of natural gas which is an important energy source of nowadays. If the natural gas is liquefied then its volume decreases and therefore it can be stored easily in this condition.

KEYWORDS : Natural gas liquefaction, cascade cycle

REALIZATION LEVELS OF THE IMPLEMENTATION OF THE CLEAN AIR PLAN IN KÜTAHYA

Ramazan KÖSE&Ahmet YAMIK

Abstract. The increase of the air pollutant amounts at the respiratory level in recent years in the city of Kütahya causes a decrease of the air quality. Due to the unsolvable nature of the problem despite the preventions implemented during advanced pollutions, the necessity to deal with this problem by the local and federal government following a planned way is required. The clean air plans (THP) are the basis of these solution fundamentals. The necessity to do a comprehensive study of THP, which gives the solution of the problem for the short and long terms, and shows the effects of the sources of air pollution in Kütahya has became unavoidable. For this purpose, in this study, under the constitution of preserving air quality dated November 2, 1986, the current situation analysis in Kütahya have been performed and the steps to be implemented have been determined.

Keywords: Air Pollution, Kütahya, Clean Air Project

COMPUTER AIDED BEARING SELECTION

Alaattin KAÇAL & Alim İŞİK & Mustafa ERGİNLİ

Abstract. In this study, anti-friction bearings which are used extensively is introduced first. A software tool to select bearings was developed using "Delphi 5" computer language. A data base was developed from the standart catalogs provided by ORS Company. Upto date data was used for data base. When the user provides the information on the "Data Entry" page "First List of Bearings" appears on the screen and then "Calculated Bearing List" is prepared. At the end of calculations, appropriate bearing will appear at the "Calculated Bearing List". Also, bearing calculations can be made by providing serial numbers of bearings. At the end of calculation a print out called "Control List" for the selected bearings is provided. With the aid of this tool designers can select any bearing easily within a couple of minutes.

Key Words : Bearing, Bearing Selection.

EFFECTS OF SOME METEOROLOGICAL FACTORS ON THE AIR POLLUTION IN KÜTAHYA

Ramazan KÖSE&Oğuzhan ERBAŞ

Abstract. Among the environmental problems that have reached the point of the highest dimensions, mainly due to reasons such as the fast increase of the population in the country, the fast and bad city foundation, the developing technology and the lack of interest, the air pollution has on important place. The effects of the quality of the fuel, the combustion techniques, the automobiles and industrial corporations, and topography which may affect the distribution of the pollution are known. In this study, statistical relationships between meteorological, climatological parameters and the concentrations of SO₂ and particulate matter, for centrum Kütahya between the years of 1989-2001, were investigated using the statistical software coded SPSS. For the relevant multiple regression equations SO₂ and particulate matter concentrations were chosen as dependent variables while the meteorological parameters (temperature, pressure, wind velocity, cloud density, relative humidity, daily calorific sum of sun-rays and the amount of rain) and the concentrations of previous day were independents. The significant correlation and regression coefficients were found between the meteorological factors and the air pollution parameters.

Key Words : Kütahya, Meteorological Factors, Air Pollution, SO₂, PM

A SEARCH FOR THE SPONTANEOUS COMBUSTION IN COAL STOCKPILES AND FORMATION OF TEMPERATURE MAP- WESTERN LIGNITE CORPORATION CASE

C.ŞENSÖĞÜT & A.H.ÖZDENİZ

Abstract. The excess of produced coal in Western Lignite Corporation (WLC) is unwillingly kept in the open stock areas as in all other collieries. During the long waiting periods, coal undergoes selfheating. For the last decade, the coal loss occurred due to the spontaneous combustion has reached to unbearable amounts. It is, thus, of high importance to take the precautions necessitated without causing any loss of coal. Therefore, a coal heap was formed, in the stock area of WLC and temperature measurements were periodically taken to obtain a temperature map aiming to produce data for the precautions to be taken.

Keywords: Spontaneous Combustion, Coal Stockpiles, Heat Map