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Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAD-7970-2019

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Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Turkey 2004 - 2012

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Turkey 2000 - 2003

Undergraduate, Ataturk University, Mühendislik Fakültesi, Turkey 1993 - 1997

Associate Degree, Sivas Cumhuriyet University, Sivas Teknik Bilimler Meslek Yüksekokulu, İnşaat, Turkey 1987 - 1992

Certificates, Courses and Trainings

Entrepreneurship, Kosgep Girişimcilik Eğitimi, KOSGEP, 2022

Dissertations

Doctorate, Tuz bileşiklerinden borhidrür sentezi ve katalitik dehidrojenasyonu, Gazi University, Fen Bilimleri Enstitüsü, 2012

Postgraduate, MgAl₂O₄/Al kompozit malzeme üretimi, Gazi University, Fen Bilimleri Enstitüsü, 2003

Research Areas

Boron Chemistry, Chemical Engineering and Technology, Chemical Technologies, Process and Reactor Design, Basic Operations and Thermodynamics, Production Metallurgy, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Gazi University, Mühendislik Fakültesi, Kimya Mühendisliği, 2022 - Continues

Lecturer PhD, Gazi University, Mühendislik Fakültesi, Kimya Mühendisliği, 2018 - 2019

Academic and Administrative Experience

Courses

İleri Bor Teknolojileri, Postgraduate, 2022 - 2023
Kimyasal Teknolojiler, Undergraduate, 2023 - 2024
TEMEL MALZEME BİLİMİ, Undergraduate, 2022 - 2023
Bor Teknolojileri, Undergraduate, 2018 - 2019

Jury Memberships

Post Graduate, Post Graduate, Gazi Üniversitesi, December, 2023
Post Graduate, Post Graduate, Gazi Üniversitesi, December, 2022
Post Graduate, Post Graduate, Gazi Üniversitesi, December, 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Impacts of Gumushane cement dust emissions on soil elemental compositions**
BİLEN S., ÖZGÜL M., Ozlu E., Bilen M.
TURKISH JOURNAL OF AGRICULTURE AND FORESTRY, vol.45, no.6, pp.766-774, 2021 (SCI-Expanded)
- II. **Improvement of ladle slag formed in ladle metallurgy with colemanite**
Bilen M.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.2, pp.943-951, 2020 (SCI-Expanded)
- III. **Low temperature synthesis and characterization of pure lanthanum hexaboride nanocrystals**
Simsek T., Chattopadhyay A. K., Bans M., BİLEN M.
JOURNAL OF SOLID STATE CHEMISTRY, vol.276, pp.238-243, 2019 (SCI-Expanded)
- IV. **Relationships between Cement Dust Emissions and Soil Properties**
BİLEN S., BİLEN M., Turan V.
POLISH JOURNAL OF ENVIRONMENTAL STUDIES, vol.28, no.5, pp.3089-3098, 2019 (SCI-Expanded)
- V. **Determination of optimal conditions in boron factory wastewater chemical treatment process via response surface methodolgy**
BİLEN M., Ates C., Bayraktar B.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.33, no.1, pp.267-278, 2018 (SCI-Expanded)
- VI. **Conversion of KCl into KBH₄ by Mechano-Chemical Reaction and its Catalytic Decomposition**
Bilen M., GÜRÜ M., ÇAKANYILDIRIM Ç.
JOURNAL OF ELECTRONIC MATERIALS, vol.46, no.7, pp.4126-4132, 2017 (SCI-Expanded)
- VII. **Synthesis of LiBH₄ from LiBO₂ as hydrogen carrier and its catalytic dehydrogenation**
Bilen M., Yilmaz O., GÜRÜ M.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.40, no.44, pp.15213-15217, 2015 (SCI-Expanded)
- VIII. **Absorption of combustion gases in boron solutions and recovery as industrial products**
Yilmaz O., Bilen M., GÜRÜ M.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.40, no.44, pp.15352-15357, 2015 (SCI-Expanded)
- IX. **PRODUCTION OF MICRONIZED CALCINED TINCAL FROM RUN-OF-MINE TINCAL AT PILOT SCALE PLANT**
Yilmaz O., Yalcinoglu Y., BİLEN M., Uludag T., Senturk B.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.28, no.3, pp.657-670,

2013 (SCI-Expanded)

- X. **Role of NaCl in NaBH₄ production and its hydrolysis**
Bilen M., GÜRÜ M., ÇAKANYILDIRIM Ç.
ENERGY CONVERSION AND MANAGEMENT, vol.72, pp.134-140, 2013 (SCI-Expanded)
- XI. **INVESTIGATION OF BORON AND ARSENIC POLLUTION IN KUTAHYA-EMET REGION UNDERGROUND WATER SAMPLES**
Uenlue M. I., Bilen M., GÜRÜ M.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.26, no.4, pp.753-760, 2011 (SCI-Expanded)
- XII. **USABILITY OF FLY ASH AND BORIC ACID IN THE PRODUCTION OF ANORTHITE CERAMIC MATERIAL**
Aydoğan U., Bilen M., GÜRÜ M.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.26, no.4, pp.761-769, 2011 (SCI-Expanded)
- XIII. **The effects of boron management on soil microbial population and enzyme activities**
BİLEN S., BİLEN M., Bardhan S.
AFRICAN JOURNAL OF BIOTECHNOLOGY, vol.10, no.27, pp.5311-5319, 2011 (SCI-Expanded)
- XIV. **Kinetic analysis of thermal decomposition of boric acid from thermogravimetric data**
Sevim F., Demir F., BİLEN M., Okur H.
KOREAN JOURNAL OF CHEMICAL ENGINEERING, vol.23, no.5, pp.736-740, 2006 (SCI-Expanded)
- XV. **Production of sodium sulfate as a by-product during boric acid fabrication from borax**
Mergen A., Demirhan H., Bilen M., Gunduz M.
SILICATES INDUSTRIELS, vol.69, no.11-12, pp.87-92, 2004 (SCI-Expanded)
- XVI. **Fabrication of boric acid and sodium sulfate from borax**
Mergen A., Demirhan M., BİLEN M.
CFI-CERAMIC FORUM INTERNATIONAL, vol.81, no.3, 2004 (SCI-Expanded)
- XVII. **Production of anorthite from kaolinite and CaCO₃ via colemanite**
Mergen A., Kaye T., Bilen M., Qasrawi A., Guru M.
EURO CERAMICS VIII, PTS 1-3, pp.1475-1478, 2004 (SCI-Expanded)
- XVIII. **Infiltration of Al alloys into MgAl₂O₄ under different atmospheres**
Bilen M., Mergen A., Guru M., Alicilar A.
EURO CERAMICS VIII, PTS 1-3, pp.1795-1798, 2004 (SCI-Expanded)
- XIX. **Processing of boric acid from borax by a wet chemical method**
Mergen A., Demirhan M., Bilen M.
ADVANCED POWDER TECHNOLOGY, vol.14, no.3, pp.279-293, 2003 (SCI-Expanded)
- XX. **Kinetics of leaching of boehmitic bauxite of Konya-Turkey with hydrochloric acid**
Mergen A., BİLEN M., Buyukburc A., Gunduz M.
SILICATES INDUSTRIELS, vol.67, no.7-8, pp.75-80, 2002 (SCI-Expanded)

Articles Published in Other Journals

- I. **Potasyum pentaborat oktahidrat üretim koşullarının belirlenmesi**
BİLEN M.
BOR DERGİSİ, vol.3, no.3, pp.188-194, 2018 (Peer-Reviewed Journal)
- II. **In-situ formation of borides and enhancement of powder metallurgy properties**
CHATTOPADHYAY A. K., BARIŞ M., ŞİMŞEK T., BİLEN M.
BOR DERGİSİ, vol.2, no.2, pp.97-101, 2017 (Peer-Reviewed Journal)
- III. **Sülfürik Asit Kullanılarak Tinkalden Borik Asit Üretimi**
Mergen A., Demirhan M. H., BİLEN M., Çebi H., Gündüz M.
Doğadan Ekonomiye, no.1, pp.24-36, 2001 (Non Peer-Reviewed Journal)

Books & Book Chapters

- I. **Metal Borhidrürlerin Sentezi ve Dehidrojenasyonu**
GÜRÜ M., ÇAKANYILDIRIM Ç., BİLEN M., AKKAŞ BOYNUĞRİ T., KARABULUT A. F.
Kutem Yayıncılık, 2022

Refereed Congress / Symposium Publications in Proceedings

- I. **Relations Between Boron Fertilization and Soil Microbial Properties**
BİLEN S., BİLEN M.
3rd International Conference on Advanced Engineering Technologies, Bayburt, Turkey, 19 - 21 October 2019,
vol.25, pp.1736-1742
- II. **Impacts of Cement Dust Emissions on Predicting Soil CO₂ Fluxes in Gumushane, Turkey**
BİLEN S., Ekrem Ö., BİLEN M., BARİK K., ÖZGÜL M.
2019 ASA, CSSA and SSSA International Annual Meeting, San-Antonio, Northern Mariana Islands, 10 - 13 October
2019
- III. **Düşük Alkali ve Düşük Sülfat İçeren Borik Asit Üretim Teknolojisinin Geliştirilmesi**
Yakar Elbeyli İ., BİLEN M.
International Symposium on Boron, Nevşehir, Turkey, 17 - 19 April 2019, pp.415-424
- IV. **Boron Carbide Based Ceramic Composites: Some Striking Contrasts**
CHATTOPADHYAY A. K., ŞİMŞEK T., BARIŞ M., BİLEN M.
International Symposium on Boron, Nevşehir, Turkey, 17 April 2019
- V. **Effects Of Soil Tillage On Soil Properties, International Agricultural**
BİLEN S., İslam R., BİLEN M., ÖZGÜL M.
International Agricultural, Biological Life Science Conference, Edirne, Turkey, 2 - 05 October 2018, pp.637-643
- VI. **Synthesis and Application of LaB₆ Nano-phase Powders for Strengthening Metal and Ceramic Matrices**
ŞİMŞEK T., CHATTOPADHYAY A. K., BARIŞ M., BİLEN M., ÖZCAN Ş.
POWDERMET2018/AMPM2018 Conferences, San-Antonio, Northern Mariana Islands, 17 - 20 June 2018
- VII. **HOT PRESSING VERSUS SINTERING: SOME STRIKING CONTRASTS WHILE DEALING WITH BORON CARBIDE BASED CERAMIC BLENDS**
CHATTOPADHYAY A. K., BARIŞ M., BİLEN M., ŞİMŞEK T.
International Conference on Powder Metallurgy Particulate Materials (Powdermet 2017), Las Vegas, United States
Of America, 13 - 16 June 2017
- VIII. **The Wear Properties of Low Carbon Steel Coated (St52) with ZrB₂ Nanoparticles by Laser Cladding**
ŞİMŞEK T., BARIŞ M., YILMAZ O., Yalçınoğlu Y., BİLEN M., AKKURT A.
Science & Applications of Thin Films Conference & Exhibition (SATF), İzmir, Turkey, 15 September 2014
- IX. **Strengthening Boron Carbide and Prevention of High Pressure Amorphization by Inducing Metals Borides Across The Grain Boundary During Hot Pressing or Sintering**
CHATTOPADHYAY A. K., BİLEN M., YILMAZ O., BARIŞ M.
International Conference on Powder Metallurgy Particulate Materials MPIF PM2015, San Diego, United States Of
America, 17 - 20 May 2015, pp.1-12
- X. **Absorption of CO₂ In Boron Solutions And Recovery As Industrial Chemical Products**
YILMAZ O., BİLEN M., GÜRÜ M.
NURER, 4. International Conference on Nuclear and Renewable Energy Resources, Turkey, 26 October 2014
- XI. **The Wear Properties of Low Carbon Steel (S235JRC) Coated with Co₂B Nanoparticles by Laser Cladding**
BARIŞ M., ŞİMŞEK T., YILMAZ O., Yalçınoğlu Y., AKKURT A., BİLEN M.
Science & Applications of Thin Films Conference & Exhibition (SATF), İzmir, Turkey, 15 September 2014
- XII. **Synthesis and Characterization of Cobalt Boride Nanoparticles Via Solvothermal Method**

BARIŞ M., ŞİMŞEK T., Çelebi B., TUNCEL S. A., YILMAZ O., Yalçınoğlu Y., BİLEN M.

The 18th International Symposium on Boron, Honolulu, Hawaii, United States Of America, 31 August - 05 September 2014

XIII. Synthesis and Characterization of Iron Boride in Aqueous Media

ŞİMŞEK T., BARIŞ M., TUNCEL S. A., YILMAZ O., BİLEN M.

Borides and Related Materials, United States Of America, 31 August 2014

XIV. Transition Metal Borides Via Carbothermal Synthesis: II. Zirconium Diboride

ŞİMŞEK T., BARIŞ M., TUNCEL S. A., YILMAZ O., Yalçınoğlu Y., BİLEN M.

The 18th International Symposium on Boron, Borides and Related Materials, United States Of America, 31 August 2014

XV. Transition Metal Borides Via Carbothermal Synthesis I. Titanium Boride

BARIŞ M., ŞİMŞEK T., TUNCEL S. A., YILMAZ O., Yalçınoğlu Y., BİLEN M.

The 18th International Symposium on Boron, Borides and Related Materials, United States Of America, 31 August 2014

XVI. Mekanokimyasal yöntemle WB2 nanoparçacıklarının sentezlenmesi

BARIŞ M., ŞİMŞEK T., YILMAZ O., BİLEN M.

VII. Uluslararası Toz Metalurjisi Konferansı ve Sergisi, Ankara, Turkey, 24 - 28 June 2014

XVII. The Usage of Boron in Agriculture and the Production of Etidot-67

YILMAZ O., Yalçınoğlu Y., BİLEN M., Saçak D., BARIŞ M.

1st Central Asia Congress on Modern Agricultural Techniques and Plant Nutrition, Bishkek, Kyrgyzstan, 1 - 03 October 2013, pp.683-688

XVIII. Hydrolysis of Synthetic KBH₄ By CoI₂ Catalyst Supported On Activated Carbon

BİLEN M., ÇAKANYILDIRIM Ç., GÜRÜ M.

III. International Conference On Nuclear Renewable Energy Resources, İstanbul, Turkey, 20 - 23 May 2012

XIX. Dehydrogenation Of Synthetic NaBH₄ By The Formation Of CoI₂ Catalyst Supported With Carbon

BİLEN M., GÜRÜ M., ÇAKANYILDIRIM Ç.

III. International Conference On Nuclear Renewable Energy Resources, İstanbul, Turkey, 20 - 23 May 2012

XX. Synthesis And Characterization Of Zinc Borate Pigment Resistant To Corros Ion And Stable At High Temperatures

BİLEN M., GÜRÜ M., ÇAKANYILDIRIM Ç., AYAR B.

CHISA 17th International Congress Of Chemical And Process Engineering, Prague, Czech Republic, 21 - 31 August 2006

XXI. Tinkalden Başlayarak Borik Asit Üretiminde Verim Arttırmaya Yönelik Çalışmalar

Mergen A., Demirhan M. H., BİLEN M., Gündüz M.

11. Uluslararası Metalurji ve Malzeme Kongresi, İstanbul, Turkey, 4 - 09 June 2002, pp.558-565

XXII. Termogravimetrik Verilerden Borik Asitin Dehidratasyon Kinetiği

SEVİM F., Okur H., DEMİR F., Mergen A., BİLEN M.

I. Uluslararası Bor Sempozyumu, Kütahya, Turkey, 3 - 04 October 2002, pp.84-91

XXIII. Hidroklorik Asit Kullanılarak Böhmitik Tip Boksitten Demirin Çözünme Kinetiği

MERGEN A., BİLEN M., Büyükburç A., Gündüz M.

International Metallurgy and Materials Congress, İstanbul, Turkey, 05 June 2002

XXIV. Raw Material Preparation for the Refractory Industry from Bauxite ore of Eti Aluminium A.Ş.

Mergen A., BİLEN M., Büyükburç A., Akçin H., Çebi H., Gündüz M.

Internationally Held V.Ceramic Congress, İstanbul, Turkey, 3 - 05 October 2001, pp.8-13

XXV. Farklı Yoğunluklarda Boraks Çözeltilerinden Borik Asit Üretimi ve Ph Kontrolü

Mergen A., Demirhan M. H., BİLEN M., Çebi H., Gündüz M.

5. Uluslararası Seramik Konferansı, İstanbul, Turkey, 3 - 05 October 2001

XXVI. Tinkalden Borik Asit Üretimi

Mergen A., Demirhan M. H., BİLEN M., Çebi H., Gündüz M.

17.uluslararası Madencilik Konferansı, İstanbul, Turkey, 19 - 21 June 2001, pp.145-152

Supported Projects

- BİLEN M., Balcı İ., Project Supported by Higher Education Institutions, Üç Boyutlu Yazıcılarda Lazer Ergitme Yöntemiyle Şekillendirilmiş Ti6Al4V ve CoCr Alaşımlarının Bor Bileşikleri ile Kaplanması ve Karakterizasyonu, 2023 - Continues
- Bilen M., TUBITAK Project, Çağrılı 1501 Sanayi Ar-Ge Projeleri Destekleme Programı- PİLOT ÖLÇEKLİ MOBİL VAKUMLU BELT FİLTRE AR-GE EKİPMANI, 2023 - 2024
- Gökmen U., Bilen M., Project Supported by Higher Education Institutions, Alternatif Üretim Yöntemleriyle İleri Teknoloji Malzeme Üretimi, 2023 - 2024
- Bilen M., Energy and Natural Resources Ministry, Eti Maden-Atık Çözeltilerin Üretim Prosesinde tekrar kullanılması veya deşarj limitlerine getirilmesi, 2017 - 2019
- Bilen M., Elbeyli İ. Y., TUBITAK Project, 1007 PROGRAMI-111G072 sayılı "Düşük Alkali ve Düşük Sülfat İçeren Borik Asit Üretim Teknolojisinin Geliştirilmesi, 2012 - 2018
- Bilen M., Energy and Natural Resources Ministry, Eti Maden-Bor Esaslı Temizlik Ürünleri Geliştirilm, 2013 - 2017
- Bilen M., Energy and Natural Resources Ministry, Eti Maden-Boren- Tarımda Bor Kullanılmasının Yaygınlaştırılması, 2014 - 2016
- Bilen M., Energy and Natural Resources Ministry, Eti Maden-Özel Sek-Demir-Çelik Sektöründe Bor Ürünleri Kullanılabilirliğinin Araştırılması, 2013 - 2016
- Bilen M., Energy and Natural Resources Ministry, Eti Maden-Özel Sek- Pilot Ölçekte Üleksit Kalsinasyonu, 2013 - 2014
- Bilen M., Energy and Natural Resources Ministry, Eti Maden-Özel Sek- Pilot Ölçekte Kalsine Kolemanit Üretimi, 2013 - 2014

Patent

- Bilen M., PURIFICATION OF BORIC ACID WITH ION EXCHANGE PROCESS (Amerika), Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: US 11,760,648 B2 , Standard Registration, 2023
- Bilen M., Elbeyli İ. Y., Kalafatoğlu İ. E., Turan A. Z., Baykan A., Tektaş E., Metin F. C., BORİK ASİTİN İYON DEĞİŞTİRME PROSESİ İLE SAFLAŞTIRILMASI (Türkiye), Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: TR 2018/03636 , Standard Registration, 2022
- Bilen M., Elbeyli İ. Y., Kalafatoğlu İ. E., Turan A. Z., Baykan A., Tektaş E., Metin F. C., BORİK ASİTİN İYON DEĞİŞTİRME PROSESİ İLE SAFLAŞTIRILMASI (Avrupa-İtalya), Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: 19726136.5 , Standard Registration, 2022
- Bilen M., Elbeyli İ. Y., Kalafatoğlu İ. E., Turan A. Z., Baykan A., Tektaş E., Metin F. C., BORİK ASİTİN İYON DEĞİŞTİRME PROSESİ İLE SAFLAŞTIRILMASI (Rusya), Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: RU 2020129220 , Standard Registration, 2021
- Ersan O., Karataş H. K. K., Bilen M., Özel S., Metin F. C., TOZ ÜRÜNLERDE HOMOJEN TANE BOYUT DAĞILIMLI GRANÜL ÜRETİM YÖNTEMİ VE GRANÜLASYON SİSTEMİ, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: TP2018/17519 , Standard Registration, 2021
- Yılmaz O., Yalçınoğlu Y., Bilen M., Demirel N., Karakoç G., Doğan E. N., Arslan F., Bor Temizlik Ürünü ve Üretim Prosesi, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: TR 2014 09342 B , Standard Registration, 2017
- Yılmaz O., Yalçınoğlu Y., Bilen M., Kaya R., Çetin C. E., Yüksek Fırınlarda Kullanılan Metalürjik Kokun CSR ve CRI Değerlerinin Bor Çözeltilisi ile İyileştirilmesi Yöntemi, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: TR 2014 10031 B , Standard Registration, 2016
- Yılmaz O., Yalçınoğlu Y., Bilen M., Ünlü F., Şekerci R., Demirel N., Karakoç G., Saçak D., İplikçiöğlü Ö., Bor esaslı mikronize deterjan ve üretim prosesi, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: TR 2013 11851 B , Standard Registration, 2016
- Yalçınoğlu Y., Ünlü F., Bilen M., Uludağ T., Şentürk B., Akçin H., Ünalı O., Arıtürk H., Yalçınoğlu Y., Development of The Boric Acid Process (Rusya), Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: RU2013117060 , Standard Registration, 2014
- Yalçınoğlu Y., Ünlü F., Bilen M., Uludağ T., Şentürk B., Akçin H., Ünalı O., Arıtürk H., Yaşar Y., Borik asit üretimi prosesinin

geliştirilmesi (Türkiye), Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: TR 2010 08667 B , Standard Registration, 2014

Bilen M., Yalçmođlu Y., Ünlü F., Uludađ T., Őentürk B., Akçin H., Ünalđı O., Arıtürk H., Yaşar Y., DEVELOPMENT OF THE BORIC ACID PRODUCTION PROCESS (Avrupa), Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: EP2011776922 , Standard Registration, 2013

Awards

Bilen M., Gürü M., Sanayi ve Teknoloji Tezleri Yarışması, Üniversite sanayi ve teknoloji tezlerini teşvik etmek ve ödüllendirmek amacıyla "Tuzlu bileşiklerden borhidrür sentezi ve katalitik dehidrojenasyonu" İKİNCİLİK ÖDÜLÜ, Gazi Üniversitesi, June 2013

Bilen M., Proses ekipmanlarının prototipinin geliştirilmesi "Prototip Bant Filtre İmalatı" TAKDİR BELGESİ, Ödüllü, Eti Maden İşletmeleri Genel Müdürlüğü, June 2012