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# *Journal of* **Rare Earths**



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- Preparation and upconversion luminescence modification of  $\text{YbPO}_4\text{:Er}^{3+}$  inverse opal heterostructure  
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 .....Deping Zhang, Qiang Yang, Dongdong Zhang, Kai Guan, Fanqiang Bu, Hong Zhou, Jian Meng 1261
- Microstructure and mechanical properties of  $\text{Mg-14Li-1Al-0.3La}$  alloys produced by two-pass extrusion  
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## RARE EARTH APPLICATIONS

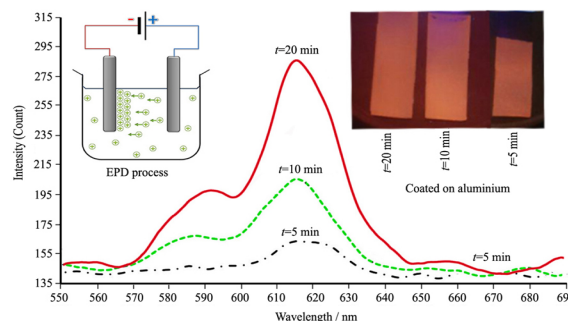
- The trivalent cerium-induced cell death and alteration of ion flux in sweetpotato [*Ipomoea batatas* (L.) Lam]  
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### SPECTROSCOPY, LUMINESCENCE AND PHOSPHORS

- 1171 Electrophoretic deposition and an investigation of co-dopants effect on luminescence property of  $\text{Mg}_2\text{SiO}_4:\text{Eu}^{3+}$  phosphors

Mehdi Ghahari, Ali Reza Naeimi

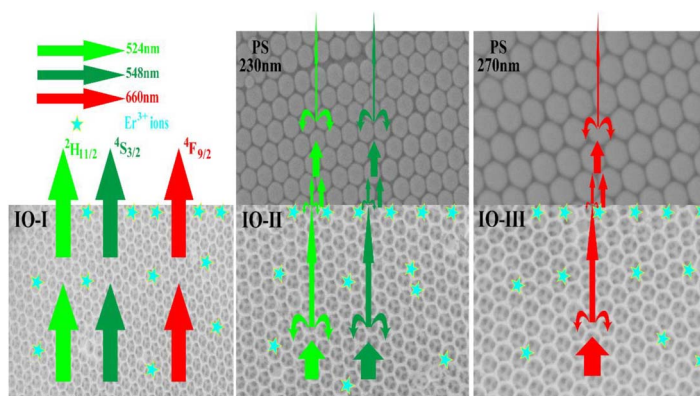


The emission spectra of aluminum substrates coated by EPD process (with  $\text{Mg}_2\text{SiO}_4:4\%\text{Eu}^{3+}, 8\%\text{Ba}$  powder) at different coating process time

*J. Rare Earths*, (35) 2017: 1171-1179

- 1180 Preparation and upconversion luminescence modification of  $\text{YbPO}_4:\text{Er}^{3+}$  inverse opal heterostructure

Zhuangzhuang Chai, Zhengwen Yang,  
Anjun Huang, Chengye Yu, Jianbei Qiu,  
Zhiguo Song



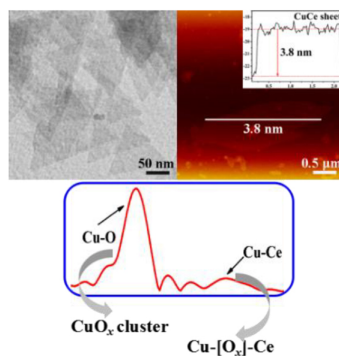
Schematic diagram of UC emission modification in the IO-I, IO-II-230 and IO-III-270

*J. Rare Earths*, (35) 2017: 1180-1185

### RARE EARTH CATALYSIS

- 1186 Copper-ceria sheets catalysts: Effect of copper species on catalytic activity in CO oxidation reaction

Linying Du, Weiwei Wang, Han Yan,  
Xu Wang, Zhao Jin, Qisheng Song, Rui Si,  
Chunjiang Jia

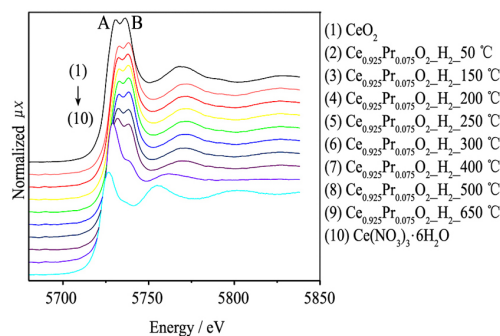


Two different states of copper species, that the  $\text{CuO}_x$  cluster with weak interaction with  $\text{CeO}_2$  and  $\text{Cu-O-Ce}$  species with stronger interaction with  $\text{CeO}_2$ , were clearly identified on the ceria sheets. Further characterization suggested the  $\text{CuO}_x$  cluster contributed more than  $\text{Cu-O-Ce}$  species in catalyzing CO oxidation reaction

*J. Rare Earths*, (35) 2017: 1186-1196

- 1197 Preparation and characterization of  $\text{Ce}_{1-x}\text{Pr}_x\text{O}_2$  supports and their catalytic activities

Kingkaew Chayakul Chanapatttharapol,  
Somkiat Krachumram, Ammarika Makdee,  
Preeya Unwiset, Sirihathai Srikwanjai



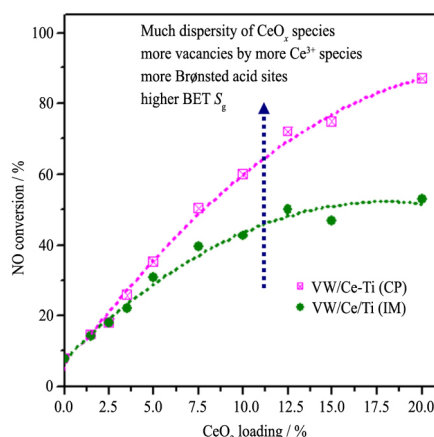
Temperature-resolved  $\text{H}_2$  reduction results indicate faster redox cycle between  $\text{Ce}^{3+}$  and  $\text{Ce}^{4+}$  occurs at lower temperature upon the addition of Pr

*J. Rare Earths*, (35) 2017: 1197-1205

- 1206 Effect of Ce doping into  $V_2O_5$ - $WO_3$ / $TiO_2$  catalysts on the selective catalytic reduction of  $NO_x$  by  $NH_3$

Mengyin Chen, Mengmeng Zhao, Fushun Tang, Le Ruan, Hongbin Yang, Ning Li

*J. Rare Earths*, (35) 2017: 1206-1215

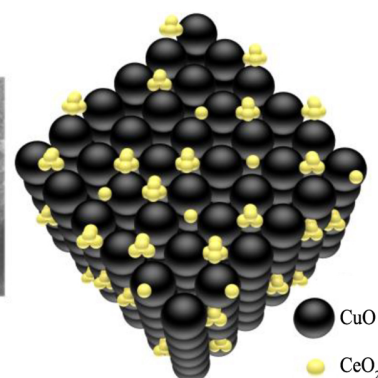
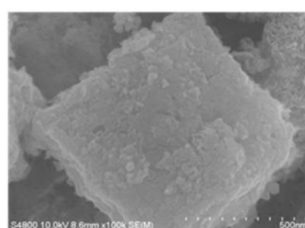


The NO conversion of  $V_2O_5$ - $WO_3$ / $CeO_2$ - $TiO_2$  catalysts modified by co-precipitation method was higher than  $V_2O_5$ - $WO_3$ / $CeO_2$ / $TiO_2$  catalysts modified by impregnation methods beyond 2.5% Ce doping contents, due to their higher specific surface area, much dispersity of Ce component, more vacancies by more  $Ce^{3+}$  species, and more Brønsted acid sites than  $V_2O_5$ - $WO_3$ / $CeO_2$ / $TiO_2$  catalysts

- 1216  $CeO_2$ / $CuO$  catalysts using different template agent for preferential CO oxidation in  $H_2$ -rich stream

Xiaolin Yan, Aiai Zhang, Meiyi Gao, Shanghong Zeng

*J. Rare Earths*, (35) 2017: 1216-1220



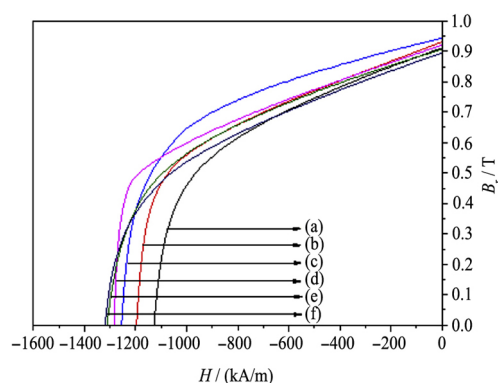
$CeO_2$ / $CuO$  catalyst for preferential CO oxidation

## MAGNETISM AND MAGNETIC MATERIALS

- 1221 Anisotropic NdFeB/ $SmCoCuFeZr$  composite bonded magnet prepared by warm compaction process

Mengling Wu, Yuping Li, Xin Wang, Lizhao Chen, Yaozhao Mu

*J. Rare Earths*, (35) 2017: 1221-1225



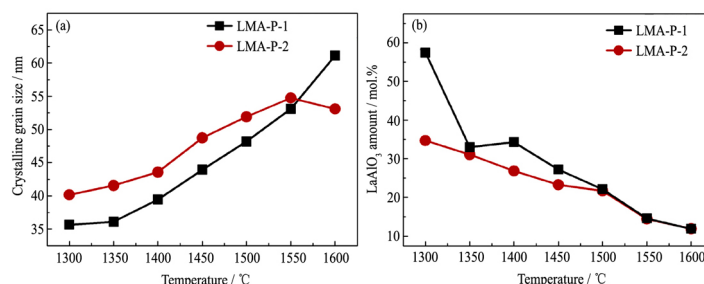
The effect of  $SmCoCuFeZr$  powder content on the magnetic properties of NdFeB/ $SmCoCuFeZr$  composite bonded magnets  
(a) 0;  
(b)  $x=10$  wt.%  
(c)  $x=20$  wt.%  
(d)  $x=30$  wt.%  
(e)  $x=40$  wt.%  
(f)  $x=50$  wt.%

## ADVANCED RARE EARTH MATERIALS

- 1226 Influence of synthesis temperatures on the crystalline grain growth and morphology of lanthanum magnesium hexaaluminate

Junbin Sun, Jinshuang Wang, Wenzhi Huang, Yu Hui, Xin Zhou, Lifan Li, Jianing Jiang, Longhui Deng, Yunya Niu, Shujuan Dong, Xueqiang Cao

*J. Rare Earths*, (35) 2017: 1226-1232

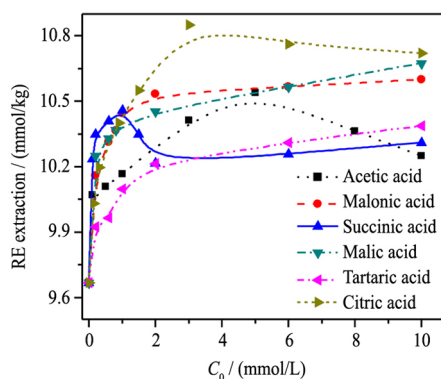


Relationship between (a) the crystalline grain size, (b) the molar fraction of  $LaAlO_3$  and temperature for LMA-P-1 and LMA-P-2 sets



- 1233 Effects of organic acids on the leaching process of ion-adsorption type rare earth ore

Li Wang, Chunfa Liao, Youming Yang,  
Haibo Xu, Yanfei Xiao, Chunhua Yan

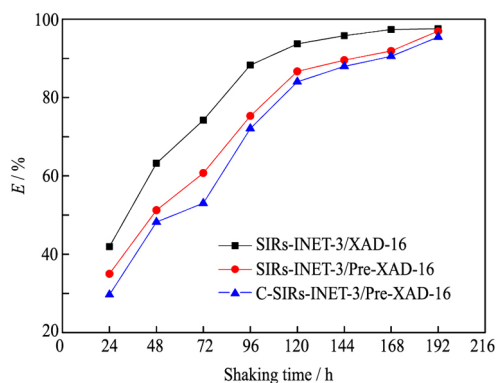


Effects of organic acids concentration on the leaching process of ion-adsorption type rare earth ore

*J. Rare Earths*, (35) 2017: 1233-1238

- 1239 Extractant (2,3-dimethylbutyl)(2,4,4'-trimethylpentyl)phosphinic acid (INET-3) impregnated onto XAD-16 and its extraction and separation performance for heavy rare earths from chloride media

Junlian Wang, Meiying Xie, Juanjuan Ma,  
Huajun Wang, Shengming Xu

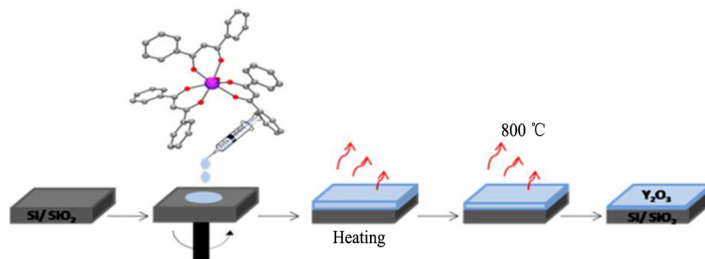


Extraction percentages of Lu(III) by SIRs-INET-3/XAD-16, SIRs-INET-3/Pre-XAD-16 and C-SIRs-INET-3/Pre-XAD-16 as a function of shaking time (solid phase: 100 mg; aqueous phase: 20 mL,  $C_{Lu(III)}=4 \times 10^{-4}$  mol/L,  $C_{NaCl}=0.1$  mol/L,  $pH_{initial}=2.40$ )

*J. Rare Earths*, (35) 2017: 1239-1247

- 1248  $[Y(dbm)_3(H_2O)]$ : Synthesis, thermal behavior and spin-coating precursor for  $Y_2O_3$  layer formation

Elaheh Pousaneh, Andrea Preu,  
Khaybar Assim, Julian Noll,  
Alexander Jakob, Tobias Rüffer,  
Heinrich Lang

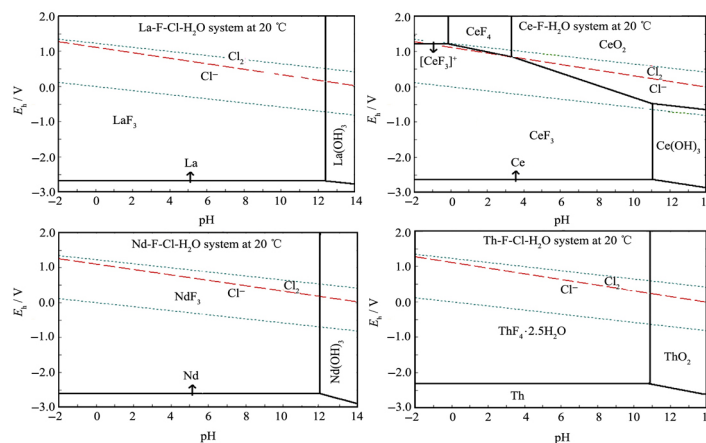


Synthesis of  $[Y(dbm)_3(H_2O)]$  and its use as spin coating precursor for  $Y_2O_3$  thin film formation

*J. Rare Earths*, (35) 2017: 1248-1254

- 1255 Aqueous stability of rare earth and thorium elements during hydrochloric acid leaching of roasted bastnaesite

Genghong Shuai, Longsheng Zhao,  
Liangshi Wang, Zhiqi Long, Dali Cui

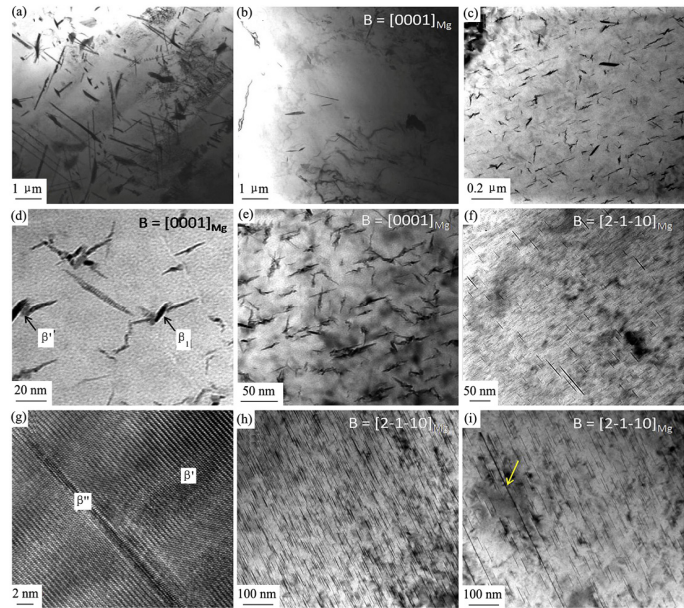


$E_h$ -pH diagram of La-, Ce-, Nd- and Th-F-Cl- $H_2O$  system

*J. Rare Earths*, (35) 2017: 1255-1260

- 1261 Effects of substitution of Nd in a sand-cast Mg-2.5Nd-0.6Zn-0.5Zr alloy with  $x$  wt.% Sm ( $x=2.5, 4$ , and 6)

Deping Zhang, Qiang Yang,  
Dongdong Zhang, Kai Guan, Fanqiang Bu,  
Hong Zhou, Jian Meng

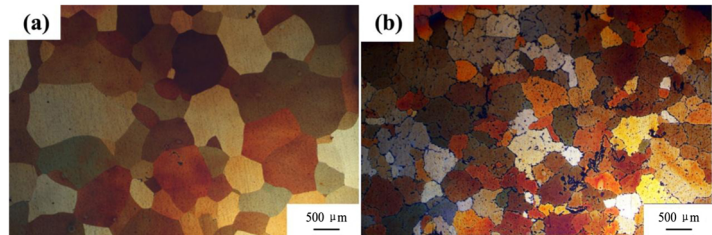


(a) Bright-field TEM images of precipitates in the center of  $\alpha$ -Mg grains for (a) A alloy and (b) C alloy, precipitates formed during aging treatment in the A alloy with peak aging at (c and d) 225 °C and (e) 200 °C, where B close to [0001], and in the C alloy with peak-aging at (f and g) 200 °C, (h) 225 °C and (i) 250 °C, where B close to  $[2\bar{1}10]$

*J. Rare Earths*, (35) 2017: 1261-1267

- 1268 Microstructure and mechanical properties of Mg-14Li-1Al-0.3La alloys produced by two-pass extrusion

Ruihong Li, Bin Jiang, Zhijun Chen,  
Fusheng Pan, Zhanyong Gao



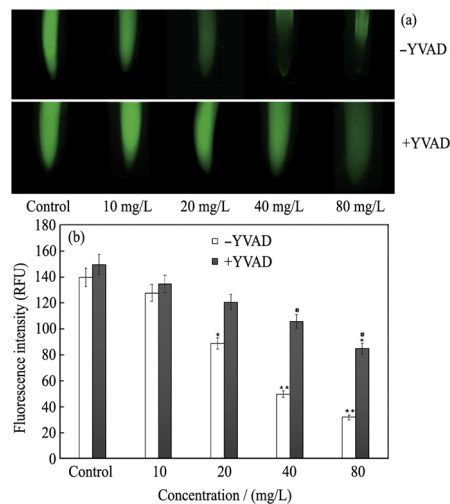
Optical images of as-cast LA141 alloy with different contents of La: (a) without La; (b) with 0.3 wt.% La

*J. Rare Earths*, (35) 2017: 1268-1272

## RARE EARTH APPLICATIONS

- 1273 The trivalent cerium-induced cell death and alteration of ion flux in sweetpotato [*Ipomoea batatas* (L.) Lam]

Jiaojiao Jiang, Jianzhong Hu, Zeyi Xie,  
Qinghe Cao, Daifu Ma, Yonghua Han,  
Zongyun Li



Effect of  $Ce^{3+}$  on cell viability in the root of sweetpotato. (a) Effect of  $Ce^{3+}$  on cell viability with FDA staining in the root. (b) Relative statistical analysis of fluorescence intensity of cell death in the root

*J. Rare Earths*, (35) 2017: 1273-1284