

Abstract Submitted  
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**Systematic growth and physical properties of  $\text{BaFe}_{2-x-y}\text{Cr}_y\text{Ni}_x\text{As}_2$**  DONGLIANG GONG, Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China, RUI ZHANG, Department of Physics and Astronomy, Rice University, Houston, Texas 77005, USA, SHILIANG LI, Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China, PENGCHENG DAI, Department of Physics and Astronomy, Rice University, Houston, Texas 77005, USA, HUIQIAN LUO, Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China — We have successfully grown the single crystals of  $\text{BaFe}_{2-x-y}\text{Cr}_y\text{Ni}_x\text{As}_2$  with a series of Ni and Cr doping levels. Their physical properties were studied by the elastic neutron scattering and transport measurements. It is found that Cr doping is a very efficient way of suppressing the superconductivity in the  $\text{BaFe}_{2-x}\text{Ni}_x\text{As}_2$  system with little change of the  $T_S$  and  $T_N$ . The magnetic and electronic properties without the presence of the superconductivity may be thus investigated at low temperature.

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