

SFB 608

Einladung zum Kolloquium

Ort: Universität zu Köln
II. Physikalisches Institut
Seminarraum 201

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Sprecher: Ncholu I. Manyala
Department of Physics & Electronics
National University of Lesotho
South Africa

**Thema: Transport and Magnetic
Measurements of Mono-silicides**

Magnetic semiconductors are attracting great interest because of their potential for magnetic storage devices and use for spintronics, a new technology that merges electronics with the manipulation of conduction electron spins. Recent discoveries of magnetic storage materials include the “colossal” magnetoresistance in the manganites and the enhanced magnetoresistance in low-carrier-density ferromagnets. While, (GaMn)As and (GaMn)N have recently emerged as the most popular materials for this new spintronics technology, and although their Curie temperatures are rising towards room temperature, these materials can only be fabricated in thin-film form, are heavily defective and not obviously compatible with Si. In this talk we will discuss the Co doped FeSi which share similar properties as some of these materials for both magnetic storage and spintronics technology with a small twist that the magnetoresistance observed are positive and that it is Si-based spintronics potential material.

Gez. M. Abd-Elmeguid