



ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE
ÚSTAV TECHNICKÉ A EXPERIMENTÁLNÍ FYZIKY

128 00 Praha 2 - Albertov, Horská 3a/22
tel.: 22435-9391, 9290; fax: 22435-9392



POZVÁNKA
na 231. seminář ÚTEF ČVUT
pod záštitou Československé sekce NPSS IEEE

Nuclear spin polarized targets

Tapio Niinikoski

CERN

Abstract

We shall first discuss the basic principles and key technical advances in solid polarized targets. Among the "historic" advances are the invention of dynamic nuclear polarization and its quantum statistical description, followed by improvements in refrigeration permitting the operation of targets in frozen-spin mode. The development of double-target techniques permits the measurement of unprecedentedly small spin asymmetries in deep-inelastic muon scattering. An important step was also the discovery of the radiation hardness of irradiated ammonia and lithium hydrides, when operated at 1 K temperature and 5 T field; this enables the probing of nucleon spin structure in very intense polarized electron beams. We shall end by reviewing briefly the applications of dynamic nuclear polarization in studies of molecular structures by spin contrast variation techniques, and in magnetic resonance imaging with spin polarized contrast media.

Seminář se bude konat v úterý 8. března 2010 ve 14 hodin
v zasedací místnosti ÚTEF ČVUT, Praha 2 - Albertov, Horská 3a/22

Ing. František Krejčí
tajemník semináře

Ing. Stanislav Pospíšil, DrSc.
ředitel

Doc. Ing. Carlos Granja, Ph.D.
sekretář NPSS, ČS IEEE

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