



Solid State Institute  
המכון למצב מוצק

TECHNION  
Israel Institute  
of Technology



הטכניון  
מכון טכנולוגי  
לישראל

**SPECIAL SEMINAR**

**סמינר מיוחד**

## **Nuclear Hyperpolarization through Coherent Spin Exchange**

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### Abstract

Nuclear spin polarization is of major importance for many applications such as NMR and quantum simulators. There are methods of enhancing the nuclear polarization beyond the thermal Boltzmann polarization, based on the interaction of the target spins with spins which can be polarized more easily. In recent years there were demonstrations which utilized such methods. We discuss a particular regime where coherent spin-spin interactions facilitate polarization transfer between the spin species. We discuss several systems in which coherent interaction leads to polarization rate enhancement.

**ההרצאה תתקיים ביום ראשון, ה-14.2.16 בשעה 12:30**

**בבניין המכון למצב מוצק, בחדר הסמינרים**

**The lecture will take place on Sunday, 14.2.16 at 12:30**

**at the Solid State Institute, seminar room**

**M.Sc. Student of Associate Professor Michael Reznikov**