Modelling for spintronics: interaction between electron spins and local magnetisation in finite element approach

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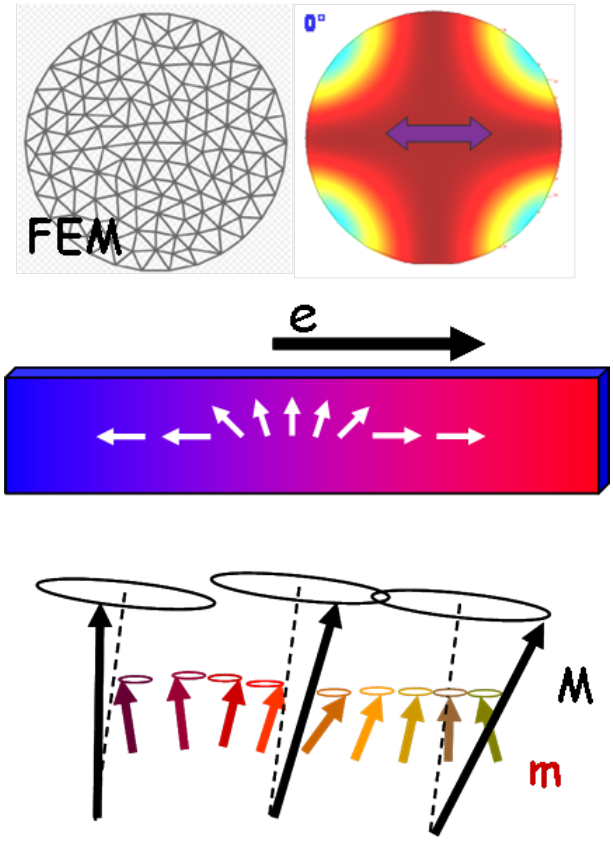
PhD may follow: No

Summary :

The development of new nanoscale devices based on the action of polarized current and spin transfer phenomena for data storage or telecommunications systems requires an important modelling and theoretical support in order to analyze the experimental data and optimize the working condition for such structures in order to obtain the better performances.

In this context, the student will deal with modelling of realistic magnetic structures with the help of the finite element software (developed jointly at Spintec and Neel Institut) which couples spin transport equations and magnetization dynamics in a self-consistent way.

During this internship, the student will have an occasion to get familiar with spin dependent transport theories, micromagnetic approach and numerical modelling. In addition, the candidate will use such scientific software as Comsol, MatLab, Origin.



Requested skills :

This internship is for the student currently following Master 1 degree.