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SEIT 1386

# STRUCTURES JOUR FIXE

**GABRIEL PATERNAIN**

Department of Pure Mathematics and Mathematical Statistics,  
University of Cambridge (UK)

“The non-abelian X-ray transform”

November 4, 2022 1:30 PM

**HYBRID: Great lecture hall in Philosophenweg 12 and  
Zoom. Meeting ID: 935 6549 3662, Code: 928036  
Contact: [office@structures.uni-heidelberg.de](mailto:office@structures.uni-heidelberg.de)**



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## ABSTRACT

I will describe the mathematics that underpins recent experiments designed to measure magnetic fields inside materials by shooting them with neutron beams from different directions, like in a CT scan.

The problem is packed with some beautiful geometry and analysis, where the star of the show is a matrix in  $SO(3)$  obtained by solving a suitable linear ODE along straight lines in the plane.

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