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Blood Flow Quantification with Phase Contrast in Magnetic Resonance Imaging

Tuesday, 10 June 2014 10:00 (1 hour)

Magnetic Resonance Imaging provides some of the most powerful techniques to study in vivo the vascular tree and a large spectrum of phenomena related to blood flow. In this context, Phase Contrast pulse sequences play a central role in the flow quantification of arterial and venous vessels.
After a brief introduction to NMR signal formation and its spatial reconstruction, the theory of flow-encoding through the application of bipolar gradient will be presented, and the link between phase-difference reconstruction and velocity-mapping will be described, in order to show the feasibility of blood flow quantification. Finally, an outlook on some advanced issues will provide an insight on time-resolved 2D/3D flow reconstructions and on the accuracy of the results.

Presenter: Dr PALMA, Giuseppe (CNR - IBB Napoli)