

Multiparametric Mapping accounting for Flow: MR Angiography in the Transient-state

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Quantitative Transient-state Imaging (QTI) is a non-random, dictionary-less MR Fingerprinting alternative. Through iterative reconstructions, QTI recovers a series of contrast-weighted images from transient-state acquisitions and subsequently estimates the parameters that best describe the resulting dynamic signal evolutions. Here, we extend the QTI framework by incorporating a simple velocity model that accounts for blood flowing into and out of the imaging slice. The model, however wrong, can be very useful: it predicts signal hyperintensities in the presence of flow, allowing for the simultaneous reconstruction of MR Angiography images, hundreds of dynamic contrast-weighted images, and their corresponding parametric maps.

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