Ultrasound Vector Flow Imaging: Part I: Sequential Systems - DTU Orbit (12/12/2018)

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The paper gives a review of the most important methods for blood velocity vector flow imaging (VFI) for conventional, sequential data acquisition. This includes multibeam methods, speckle tracking, transverse oscillation, color flow mapping derived vector flow imaging, directional beamforming, and variants of these. The review covers both 2-D and 3-D velocity estimation and gives a historical perspective on the development along with a summary of various vector flow visualization algorithms. The current state-of-the-art is explained along with an overview of clinical studies conducted and methods for presenting and using VFI. A number of examples of VFI images are presented, and the current limitations and potential solutions are discussed.

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