Title: Pattern identification of biomedical images with time series: Contrasting THz pulse imaging with DCE-MRIs

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This is a literature review paper, aiming to provide a survey of recent advances in biomedical image analysis and classification from emergent imaging modalities such as terahertz (THz) pulse imaging (TPI) and dynamic contrast-enhanced magnetic resonance imaging (DCE-MRI) and identify their underlining commonalities.

Highlights of our review include a generic approach for treating two-dimensional pixel as well as three-dimensional voxel datasets on the basis of identified amplitude and phase features in the respective time-domain signatures of such heterogeneous datasets; this enables the development of a unified multi-channel signal processing framework for biomedical image analysis. A further highlight is the use of the proposed classification methodology to enable the fusion of entire datasets from a sequence of images taken at different time stamps from the viewpoint of inferring disease proliferation.