



Joint acquisition-processing approach to optimize observation scales in noisy imaging

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Résumé en anglais	<p>In imaging, the choice of an observation scale is conventionally settled by the operator in charge of the image acquisition, who is left alone with tuning the framing and zooming parameters of the imaging system. In a somewhat decoupled manner, the operator in charge of processing the data has access to the images after their acquisition, and seeks to extract information from the observed scene. This Letter proposes a manifestation of the interest of an alternative joint acquisition-processing approach. We demonstrate with quantitative informational measures how the choice of an observation scale can be directly related to the performance of the final information processing task. Illustrations are given with various tools from statistical information theory with possible applications of practical interest to any noisy imaging domains.</p>
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