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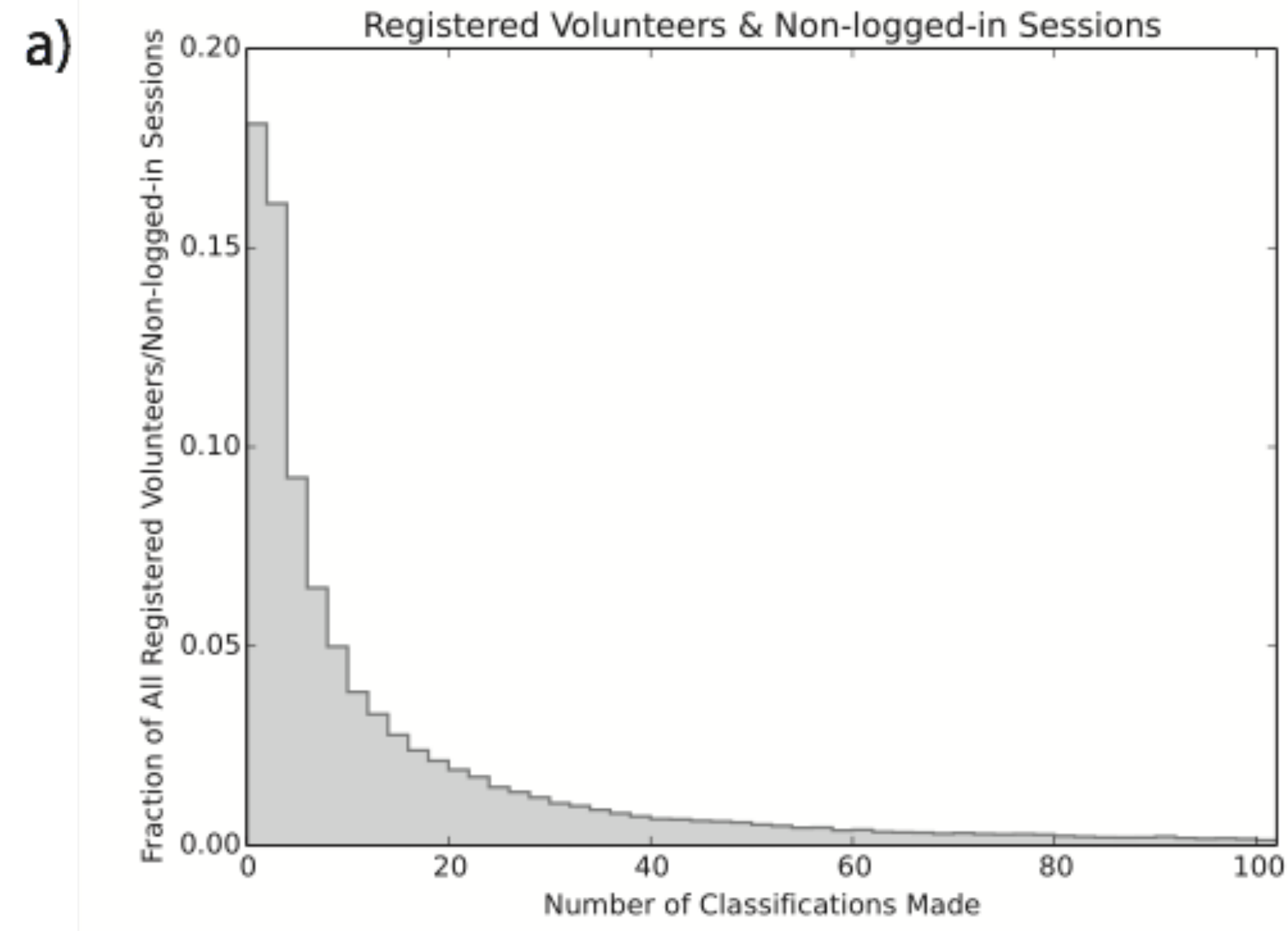
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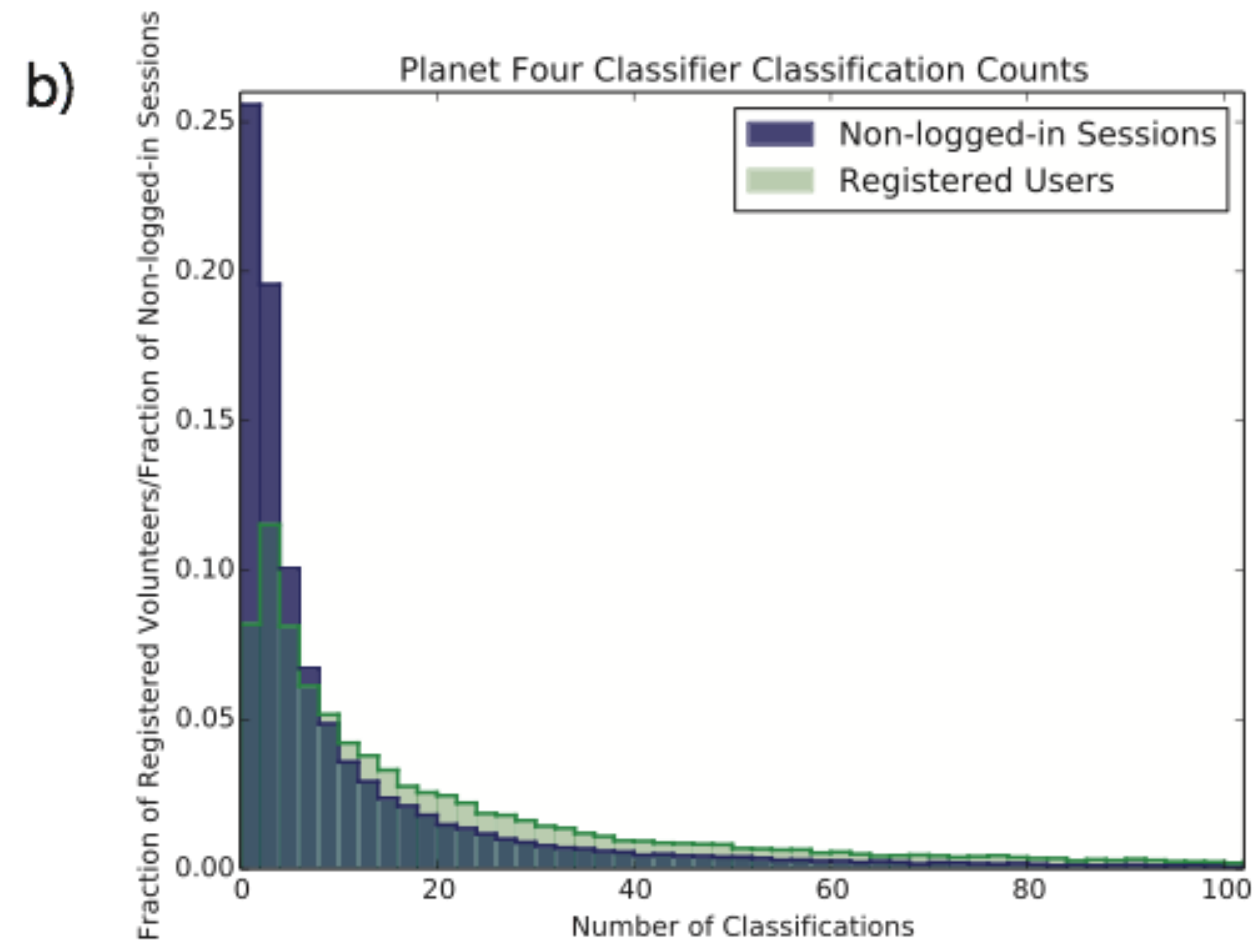
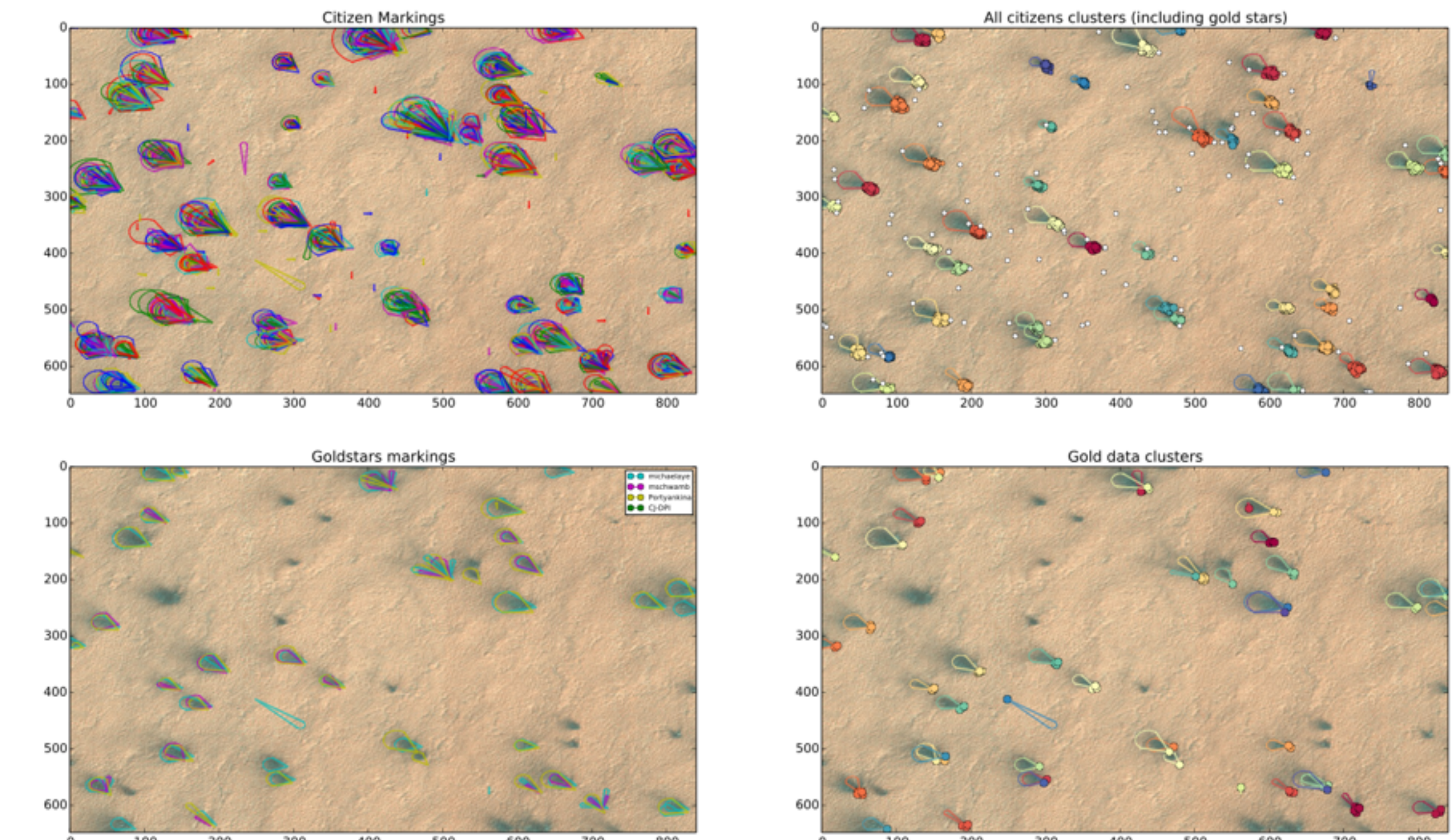
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Fan clustering

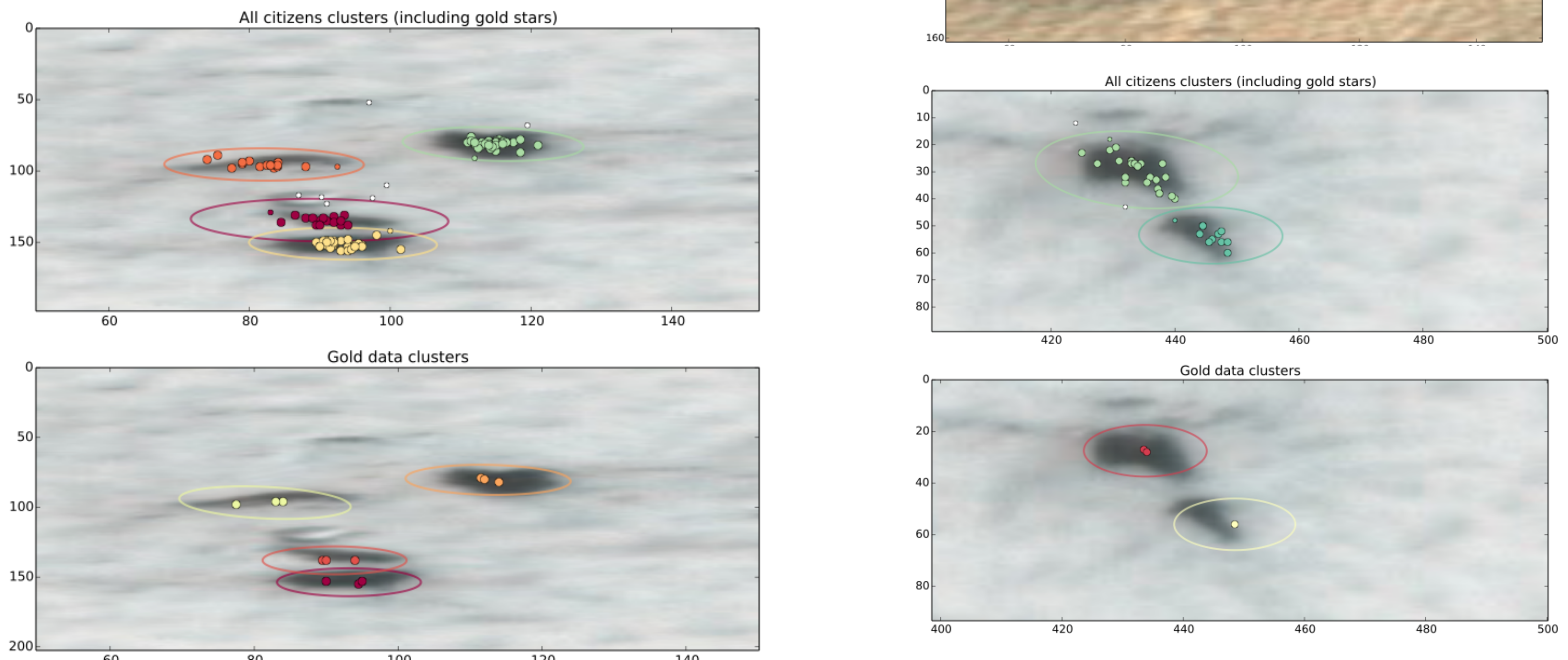
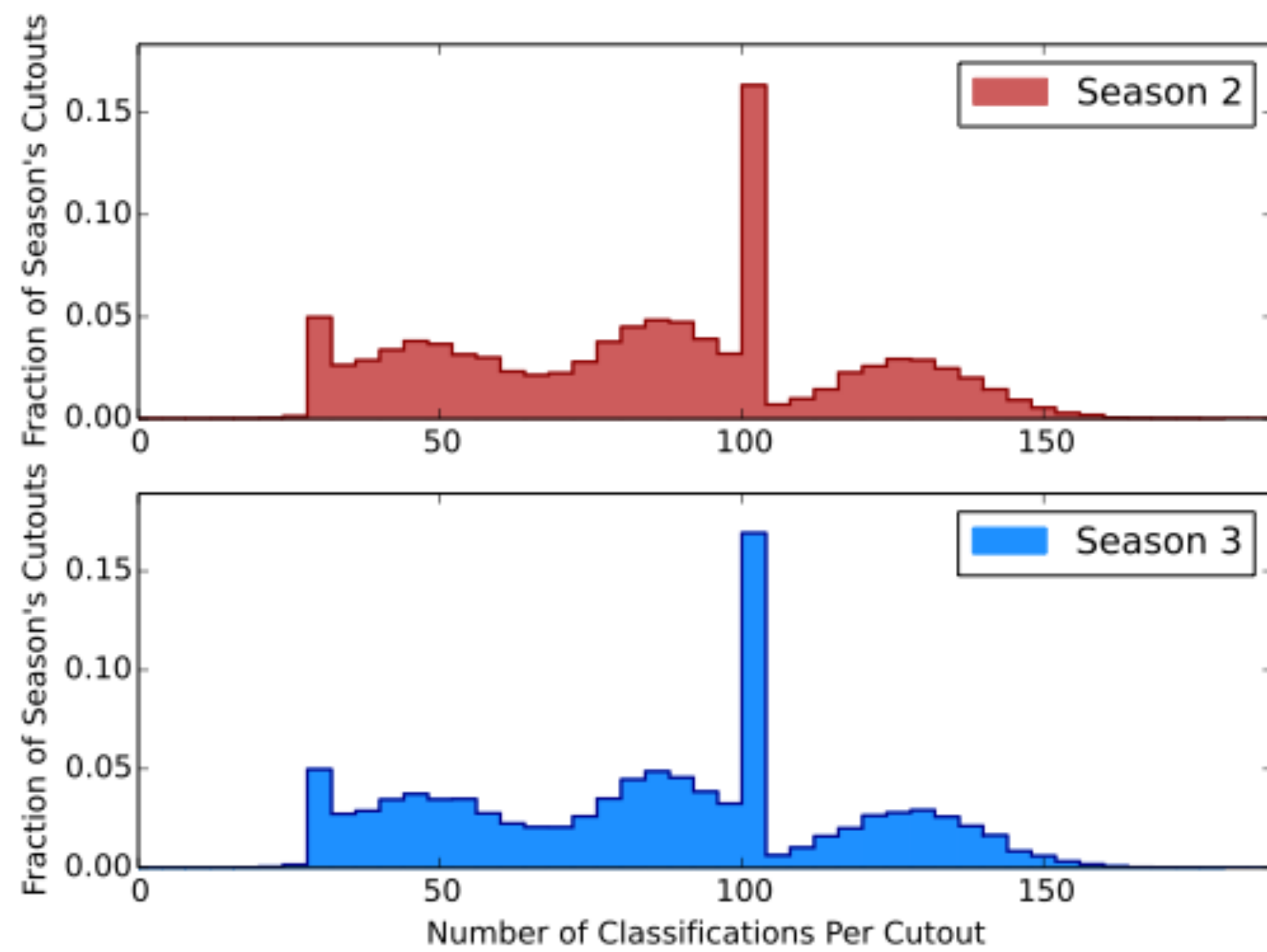
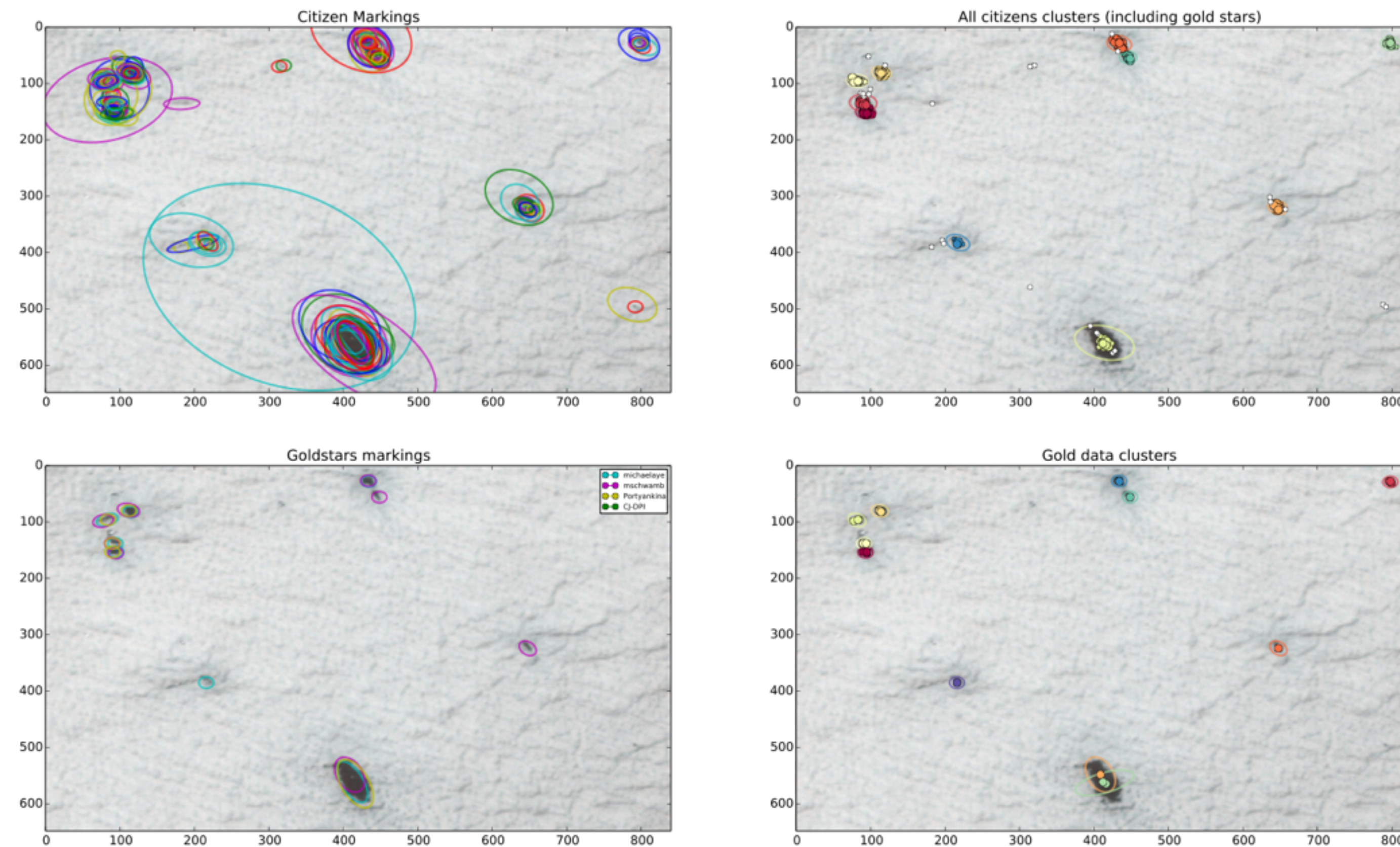


We report preliminary results of the analysis of crowd-sourcing data on fan-shaped deposits that are produced by CO₂ gas jets depositing sand and dust on top of the seasonal CO₂ ice layer at the Martian south pole. A database of over 98,000 HiRISE subframes has been produced that is embedded into a web-based graphical interface for marking the position and outline of the fan deposits.

Clustering techniques (DBSCAN) are used to combine these data into coordinates and orientations to provide data on the intra- and inter-seasonal developments of the fan-shaped deposits in several active south polar regions.



Blotch clustering



Planet Four project: Planet Four (www.planetfour.org) is one of many crowd-sourcing projects initiated by the Citizen Science Alliance and augmented with institutional support from the Universities of Oxford, Nottingham, and Minnesota, John Hopkins University, the National Maritime Museum, and Adler Planetarium. The Citizen Science Alliance provides the web portal, infrastructure, and technical expertise for involving large numbers of volunteers in research projects (the “zooniverse”, described at www.zooniverse.org).