Pre-attentive Vision Models for Automated IMAGE/RPI Data Exploration

Ivan Galkin¹, Bodo Reinisch¹, Georges Grinstein², Grigori Khmyrov¹, Alexander Kozlov¹, and Shing Fung³

¹ Center for Atmospheric Research, University of Massachusetts, 600 Suffolk Street, Lowell, MA 01854
² Institute for Visualization and Perception Research, Computer Science Department, University of Massachusetts Lowell, MA, 01854
³ Space Physics Data Facility, NASA Goddard Space Flight Center, Greenbelt, MD 20771

SALIENCY CALCULATIONS

ROI OPTIMIZATION

PERCEPTUAL GROUPING

CORPRAL

Cognitive Online Rpi Plasmagram Ranking ALgorithm

SUMMARY

"CORPRAL" is an IDU system that explores daily submissions of the Radio Plasma Imager data looking for certain signatures (echo traces). Found qualifying plasmagrams are rated in the mission database. The CORPRAL selects about 15% of all images (currently ~100,000).