

Interactive comment on “Exploring Geomorphic Processes and Martian Gale Crater Topography on Mars using CTX and HiRISE Express Image Dataset” by Pavan Kumar et al.

Anonymous Referee #4

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The present manuscript has utilized the available visible (MOLA) and topographic (CTX and HiRISE) datasets to explore the geomorphological processes on the Gale Crater. The authors found that fluvial and aeolian processes have been active in producing various landforms on Martin Gale Crater surface over the ages. Authors also have explored the major geomorphic features present on the Gale Crater. I recommend the manuscript for publication in Earth System Science Data (ESSD) Journal after minor revision. Some section-wise comments are given below: Introduction: The active mission phase of MSL and some recent literature needs to be added in the introduction section. Study Area: Legend is missing in Figure 1. Without legend how it is possible to interpret the colours and vertical exaggeration. Further, the view presented in figure

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1 is not actually 3D rather it is perspective.

Figure 2: Some of the methods shown in flow chart as Crater Counting and JMARS were not discussed in the manuscript.

Material and Methods: Some typographical errors need to be corrected. No references are provided for instruments. How was distortion removed? Orthorectification? Did you use the USGS software ISIS, or a custom code? Results and Discussion: What new knowledge is added to the previous studies?

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