

To: Oleg Korablev, Associate Editor, Geoscientific Instrumentation

From: B Ramanan

Date: November 11, 2023

RE: Reviewer comments for manuscript #egusphere-2023-2146

Title: Feasibility of cell-phone camera Raman spectrometer for geological samples identification in field or mobile situations

Authors: Dinesh Dhankhar and Matthew Wehner

This note describes the feasibility of using a cell-phone Raman spectrometer for geological applications. The major selling point of this approach is to simplify the Raman spectroscopy measurements under a variety of field conditions. The approach is quite interesting and has great potential in a wide range of applications. With minor revisions describing the SNR analysis with respect to various physical and environmental conditions, this note could potentially make it for publication

Best,

B Ramanan,
Scientist
Laboratory of electro-optic sensors (LEOS)
Indian Space Research Organisation (ISRO)
Peenya, Bengaluru,
India

Recommendation: Minor Revision

Minor Revisions:

1. One of the major challenges in measuring Raman spectra of minerals is the positioning of the instrument for the efficient collection of Raman scattered photons. Is it possible for the authors to provide an analysis on the depth of focus of the system (i.e. SNR vs Working Distance) which could help the readers to understand the robustness as well as the flexibility of the system.
2. Since the instrument is intended to be used in real-world conditions, SNR analysis with regard to the environmental conditions, such as sunlight and dusty conditions. This information could help to understand the reliability of the system with respect to the varying environmental conditions.