

# A New Method of Continuum Removal for Mixing Spectral Analysis

Zhao Hengqian<sup>1</sup>, Zhang Lifu<sup>2</sup>

<sup>1</sup>*Institute of Remote Sensing and Digital Earth (RADI), Chinese Academy of Sciences,  
No.20 Datun Road, Beijing 100101, China, [zhaohq@irsa.ac.cn](mailto:zhaohq@irsa.ac.cn)*

<sup>2</sup>*Institute of Remote Sensing and Digital Earth (RADI), Chinese Academy of Sciences,  
No.20 Datun Road, Beijing 100101, China, [zhanglf@irsa.ac.cn](mailto:zhanglf@irsa.ac.cn)*

**Abstract:** In spectral analysis, continuum removal process is commonly used due to its effect of strengthening the absorption features. However, the classic continuum is only related to the single spectrum itself, without considering the effects of mixing spectral or variation of endmembers, so the continuum removal spectral of different pixels could not be compared quantitatively with each other. In this paper, the physical model of continuum is analyzed, and a new method of Modified Continuum Removal (MCR) which takes the spectral mixing effects into consideration is presented and evaluated. Three basic absorption parameters, including band center, band width and band depth are calculated and compared between classic Continuum Removal (CR) process and MCR process. The results show that the MCR process could effectively extract the absorption feature of specific factor and improve the accuracy of spectral mixture analysis.

**Keyword:** Hyperspectral Remote Sensing; Modified Continuum Removal (MCR); Spectral Mixture Analysis; Diagnostic Absorption Feature