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## Mapping pure vegetation index values based on multisource remote sensing data over China for estimation of fractional vegetation cover

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Fractional Vegetation Cover (FVC) is an important vegetation structure factor for agriculture, forestry, and ecology. Due to its simplicity and reasonable precision, the vegetation index-based (VI-based) mixture model is commonly used to estimate vegetation cover from remotely sensed data. Improving the accuracy and computational efficiency of FVC estimations requires rapidly and precisely calculating the model's two most important parameters, namely the pure vegetation index of fully-vegetated and bare soil pixels. However, no pure normalized difference vegetation index (NDVI) values mapping has yet been produced. When there is a lack of pure pixels in many ecosystems, traditional empirical statistical approaches for obtaining pure vegetation index values are unreliable and challenging. In this study, the pure NDVI values mapping over China is achieved by combining the traditional empirical statistical method and the multi-angle remotely sensed inversion method (MultiVI), which can be adapted to various application scenarios for vegetation cover estimation when utilized with vegetation indices with different spatial and temporal resolutions. When the pure NDVI values extracted from a total of 19 GF-2 images in various parts of China were compared to those obtained in this study, the findings showed a good degree of accuracy. Furthermore, in semi-arid areas where fully-vegetated pixels are lacking and vegetation evergreen areas where bare soil pixels are lacking, this study can compensate for the fact that empirical statistical methods are unable to obtain accurate pure NDVI values and provide reasonable endmember NDVI values for vegetation cover estimation using the VI-based mixture model.