

# **Application on agricultural Remote Sensing in the Loess Plateau, China**

## **—Taking Shanxi Province as an example**

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**Abstract** Shanxi Province is located in the Loess Plateau eastern edge of the middle reaches of Yellow River valley in China. It becomes a famous severe soil-erosion region in the world, because of old-line agriculture, few reserved natural vegetation, fragmented terrain and countless gullies, so its environment is quite fragile. Severe soil-erosion, degradation land and frequent natural disaster have not only become leading reasons for people's poor life in Loess Plateau, but also brought big difficulty to local economy and construction. The government of Shanxi Province, therefore, has started the remote sensing research in the agriculture from 70's in last century.

The article reports on the research work about applying remote sensing technology to conduct agricultural natural resources investigation and dynamic monitoring, and soil conservation information system management, and introduces major achievements at various stages. After 35 years of research in Shanxi Province agricultural natural resource investigation and dynamic monitoring have gone through the initial experimental stages of macro, micro and the combination of fixed location with its property and quantity, and have now developed into mature quantization research stages of fusion system of combing remote sensing, Geographical Information System and Geographical Information Science, so as to provide practical research technology for environment management and decision making. With rapid development of science and technology, deepening of the remote sensing research, we will gradually set up Numeric Agriculture in Shanxi Province and decision making and information management system of resources and environment monitoring, improvement and exploration on county, prefecture and provincial scales, so as to put Shanxi agricultural natural resources and environment management on the scientific way. It has a great significance in a long term.

**Keywords** Loess Plateau agricultural resources remote sensing technology Surveying and monitoring