A new method for inverse problems in stellar occultation

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In the frame of GOMOS and SPICAM experiments (Earth and Mars atmosphere stellar occultation), we have developed a new inversion algorithm based on Thikhonov regularization method.

We use onion pealing method, dividing the atmosphere into layers assuming linear variation gas density inside each layer.

We have also focused our studies on the determination of the λg smoothinggarameter, it is variable with altitude and optimise the final error covariance matrix.

The algorithm is described and some applications on Gomos and Spicam data are showed.