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Discovery of the lensed quasar eRASS1 J050129.5-073309 with SRG/eROSITA and Gaia

We report the discovery and NTT/EFOSC2 spectroscopic identification of a new bright doubly lensed quasar eRASS1 J050129.5-073309 at redshift $z = 2.47 \pm 0.03$. The source was selected from the first all-sky survey of the *Spectrum Roentgen Gamma* (SRG) eROSITA telescope and the *Gaia* EDR3 catalog. eRASS1 J050129.5-073309 is the optically brightest object in our sample and possesses remarkable properties. Legacy Survey DR10 imaging and image modeling reveal both the lensing galaxy and tentatively the lensed image of the quasar host galaxy. Archival optical light curves show evidence of a variability time delay where the fainter component lags the brighter by about 60 to 100 days. The fainter image has also decreased its brightness by about 1 magnitude since 2019. This dimming was still obvious at the time of the spectroscopic observations and is probably caused by microlensing. The discovery of this new lensed quasar and the time delay found in the optical light curve make eRASS1 J050129.5-073309 a suitable source for cosmological studies.

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