



Library Indian Institute of Science Education and Research Mohali



DSpace@IISERMohali (/jspui/)
/ Publications of IISER Mohali (/jspui/handle/123456789/4)
/ Research Articles (/jspui/handle/123456789/9)

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/1887>

Title:	Long-term X-ray variability characteristics of the narrow-line Seyfert 1 galaxy RE J1034+396
Authors:	Singh, K.P. (/jspui/browse?type=author&value=Singh%2C+K.P.)
Keywords:	Accretion discs RE J1034+396 X-rays: galaxies Galaxies: individual
Issue Date:	2018
Publisher:	Oxford University Press
Citation:	Monthly Notices of the Royal Astronomical Society, 478(4), pp. 4830–4836
Abstract:	We present the results of our study of the long-term X-ray variability characteristics of the narrow-line Seyfert 1 galaxy RE J1034+396. We use data obtained from the AstroSat satellite along with light curves obtained from XMM–Newton and Swift–XRT. We use the 0.3–7.0 keV and 3–20 keV data, respectively, from the SXT and the LAXPC of AstroSat. The X-ray spectra in the 0.3–20 keV region are well fitted with a model consisting of a power law and a soft excess described by a thermal Compton emission with a large optical depth, consistent with the earlier reported results. We have examined the X-ray light curves in the soft and hard X-ray bands of the SXT and LAXPC, respectively, and find that the variability is slightly larger in the hard band. To investigate the variability characteristics of this source at different time-scales, we have used X-ray light curves obtained from XMM–Newton data (200 s to 100 ks range) and Swift–XRT data (1 to 100 d range) and find that there is evidence to suggest that the variability increases sharply at longer time-scales. We argue that the mass of the black hole in RE J1034+396 is likely to be $\sim 3 \times 10^6 M_{\odot}$, based on the similarity of the observed quasi-periodic oscillation (QPO) to the high-frequency QPO seen in the galactic black hole binary GRS 1915+105.
Description:	Only IISERM authors are available in the record.
URI:	https://academic.oup.com/mnras/article/478/4/4830/5004857 (https://academic.oup.com/mnras/article/478/4/4830/5004857) http://hdl.handle.net/123456789/1887 (http://hdl.handle.net/123456789/1887)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format
Need to add pdf.odt (/jspui/bitstream/123456789/1887/1/Need%20to%20add%20pdf.odt)		8.04 kB	OpenDocument Text

[View/Open \(/jspui/bitstream/123456789/1887/1/Need%20to%20add%20pdf.odt\)](#)

[Show full item record \(/jspui/handle/123456789/1887?mode=full\)](#)

[Statistics \(/jspui/handle/123456789/1887/statistics\)](#)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.