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Title:	Unveiling the 100 pc scale nuclear radio structure of NGC 6217 with e-MERLIN and the VLA
Authors:	Beri, A. (/jspui/browse?type=author&value=Beri%2C+A.)
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Issue Date:	2019
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Citation:	Monthly Notices of the Royal Astronomical Society, 486(4), pp.4962-4979.
Abstract:	We present high-sensitivity 1.51 GHz e-MERLIN (e-Multi-Element Radio-Linked Interferometer Network) radio images of the nearby galaxy NGC 6217. We resolve the compact radio source at the centre of NGC 6217 for the first time, finding a twin-lobed structure with a total linear size of ~ 4 arcsec (~ 400 pc). The radio source does not have a compact central core, but there is an unresolved hotspot near the outer edge of the southern lobe. Combining our e-MERLIN data with new VLA (Very Large Array) A-Array data and archival multiwavelength data, we explore possible scenarios which might explain this complex radio morphology. We conclude that this radio source is most likely powered by a low-luminosity active galactic nucleus but with a possible important contribution from nuclear star formation. We also investigate the origin of a putative X-ray jet in NGC 6217, previously suggested in the literature. This 'jet' consists of three X-ray 'knots' in a line, pointed away from the nucleus, with a total size of ~ 3 arcmin (~ 15 kpc). We find no extended radio emission coincident with the 'jet'. An additional compact radio source, aligned with the knots but without an X-ray counterpart is detected. We detect infrared/optical sources falling within the X-ray extraction regions of the 'knots', but note that these sources could be chance associations due to high source density around the target field and we estimate the probability of three randomly aligned X-ray sources to be 0.3 per cent in this field.
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