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Title:	Puzzling blue dips in the black hole candidate Swift J1357.2 – 0933, from ULTRACAM, SALT, ATCA, Swift, and NuSTAR
Authors:	Beri, A. (/jspui/browse?type=author&value=Beri%2C+A.)
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Abstract:	We present rapid, multiwavelength photometry of the low-mass X-ray binary Swift J1357.2-0933 during its 2017 outburst. Using several sets of quasi-simultaneous ULTRACAM/NTT (optical), NuSTAR (X-ray), XRT/Swift (X-ray), SALT (optical), and ATCA (radio) observations taken during outburst decline, we confirm the frequent optical dipping that has previously been noted both in outburst and in quiescence. We also find: (1) that the dip frequency decreases as the outburst decays, similar to what was seen in the previous outburst, (2) that the dips produce a shape similar to that in binary systems with partial disc occultations, (3) that the source becomes significantly bluer during these dips, indicating an unusual geometry compared to other LMXB dipper, and (4) that dip superposition analysis confirms the lack of an X-ray response to the optical dips. These very unusual properties appear to be unique to Swift J1357.2–0933, and are likely the result of a high binary inclination, as inferred from features such as its very low outburst X-ray luminosity. From this analysis as well as X-ray/optical timing correlations, we suggest a model with multicomponent emission/absorption features with differing colours. This could include the possible presence of a sporadically occulted jet base and a recessed disc. This source still hosts many puzzling features, with consequences for the very faint X-ray transients population.
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