MODERATE DEVIATIONS IN POISSON APPROXIMATION:
A FIRST ATTEMPT

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Abstract: Poisson approximation using Stein's method has been extensively studied in the literature. The main focus has been on bounding the total variation distance. This paper is a first attempt on moderate deviations in Poisson approximation for dependent indicators. We obtain general results under local dependence as well as size-bias coupling. The results are then applied to independent indicators, 2-runs and the matching problem.