approx \sqrt{\sigma^2 - \rho^2} = 1B - RB - IV - IH - K km s^{-1} H2 H1 H\alpha [O3] M H_0 R_1 R_2 e_{\text{max}} e_{\text{min}} a_{\text{max}} a_{\text{min}} a_{10}


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An Imaging Survey of Early-Type Barred Galaxies

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abstract This paper presents the results of a high-resolution imaging survey, using both ground-based and Hubble Space Telescope images, of a complete sample of nearby barred S0–Sa galaxies in the field, with a particular emphasis on identifying and measuring central structures within the bars: secondary bars, inner disks, nuclear rings and spirals, and off-plane dust. A discussion of the frequency and statistical properties of the various types of inner structures has already been published. Here, we present the data for the individual galaxies and measurements of their bars and inner structures. We set out the methods we use to find and measure these structures, and how we discriminate between them. In particular, we discuss some of the deficiencies of ellipse fitting of the isophotes, which by itself cannot always distinguish between bars, rings, spirals, and dust, and which can produce erroneous measurements of bar sizes and orientations.