The Binary Nucleus in VCC 128: A Candidate Supermassive Black Hole in a Dwarf Elliptical Galaxy

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Searching through archival Hubble Space Telescope (HST) images of dwarf elliptical galaxies, we identified galaxies with compound nuclei. HST Wide Field Planetary Camera 2 (WFPC2) images of the Virgo Cluster dwarf elliptical galaxy VCC 128 reveal an apparently double nucleus. The two components, which are separated by 32 pc in projection, have the same magnitude and color. Spectra of this double nucleus are inconsistent with one or both components being emission-line background objects or foreground stars. The most likely interpretation is that, as suggested by Lauer et al. (1996) for the double nucleus of NGC 4486B, we are seeing a nuclear disk surrounding a supermassive black hole (SMBH). This is only the second time an early-type dwarf (dE/dSph) galaxy has been suggested to host a SMBH.