



**Chandra X-ray
Observatory Center**

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3 Quasars: Three of 51 distant quasars ranging from about 5 billion to 11.5 billion light years from Earth. (Credit: NASA/CXC/Penn State/B.Luo et al.; Illustration: NASA/CXC/M.Weiss)

Caption: A new study of 51 distant quasars using Chandra reveals a population of black holes that consume excessive amounts of matter. The artist's illustration shows how a thick, donut-shaped disk around the black hole blocks a substantial amount of the X-rays that would otherwise escape the system. The important implication of these "thick-disk" quasars is that they may harbor black holes growing at an extraordinarily rapid rate. Three of the quasars in the study are included as Chandra images below the illustration.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory