annihilation occurs within the inner few degrees of the Galaxy, where molecular gas is more abundant than anywhere else in the Galaxy, and where there is no reason to expect that massive stellar remnants are rare. According to our hypothesis, the unusual properties of the Great Annihilator are the result of two conditions, each of which has a small probability of being satisfied: first, that the object is located within a dense cloud, and second, that it has a relatively small velocity with respect to that cloud. Our calculations show that only one among the ~40,000 massive remnants within 200 pc from the centre of the Galaxy would satisfy the conditions required to produce a substantial accretion luminosity without a binary companion. Therefore, it is not surprising that despite the large amount of compact objects in the central region of the Galaxy, there is only one Great Annihilator.

Although this is a possible scenario from a theoretical point of view, we have not demonstrated that it also corresponds to reality. Therefore, it still remains an open question how the accretion disk of the black hole is actually fed.

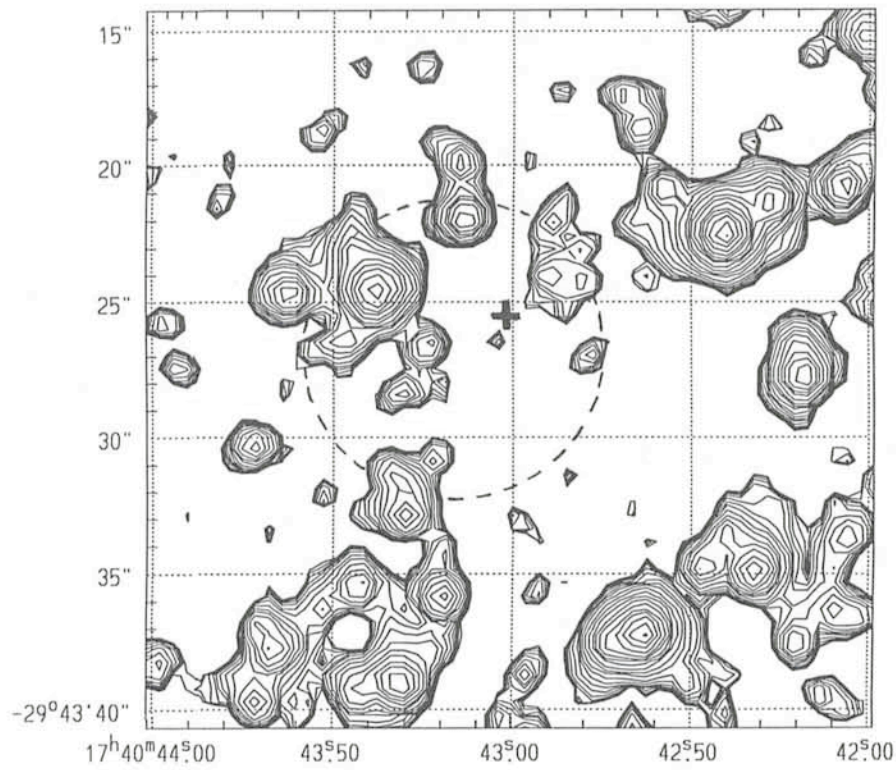

Figure 4: *K band image of the field in the direction of the Great Annihilator obtained with IRAC2 on the 2.2-m in June 1992. The ROSAT HRI X-ray error circle[6], and the cross corresponding to the compact radio counterpart of the high energy source[4] are indicated. Within 1" of the VLA counterpart there is no infrared source down to mag K = 17. This implies that there is no massive star associated to the compact source more luminous than $M_V = -3$.*

4. A Second Microquasar in the Central Region of the Galaxy

After the Great Annihilator, the second strongest persistent gamma-ray source in the galactic centre region is the source GRS1758-258[1], which is located at galactic coordinates l = 4.51°; b = −1.36°. We have recently identified the compact radio counterpart of this gamma-ray source[9]. Infrared imaging with IRAC2 on the 2.2-m by P.A. Duc and the author shows that the field is less populated than that of the Great Annihilator. However, as for the Great Annihilator, we did not detect any K band counterpart to a limiting magnitude of 17.

The recent discovery[10] of equally symmetric radio jets emerging from the second strongest persistent gamma-ray source in the galactic centre region suggests that positron-electron pair jets may be common phenomena associated with high energy sources. Our observations suggest that this class of objects represents a scaled-down version of active galactic nuclei, which appear as "microquasar" stellar remnants in high density environments.

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