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INFRARED TRIPLET IN THE RADIO ARC NEAR THE GALACTIC CENTER

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An infrared complex has been found in the radio arc region near the Galactic center. The complex consists of three sources that are close (< 10") to each other, and are almost identical in every point of their characteristics: having the same energy spectrum and the same polarization. The observed polarizations are large; 5% at the K-band, and are parallel to the galactic plane. Both behaviors are compatible to those of the galactic center sources, suggesting that the sources are located near the galactic center. The energy spectra are very similar to each other, with large infrared excesses, peaking near the M-band. The luminosity of each source is estimated to be as high as $3-5\times10^5$ L_{Θ}, after correcting for interstellar extinction assuming that they are located near the Galactic center; their luminosity is comparable to those of supergiant stars. By CVF spectrophotometry no CO-band absorption nor Bry emission has been detected, thus no evidence for either M-supergiant nor OB supergiant has been obtained. On the other hand, the very close linear distances, 0.5 pc among each other, suggests their physical relationship, i.e., they should be very young objects, otherwise they would have been dispersed far apart.

The sources are close to the intense radio knot observed in the fine radio map by VLA and coincide with the AFGL 2004 and with a bright far infrared source observed by IRAS.

It is very intriguing that triple sources with identical characteristics are packed in a very small volume and in the vicinity of the Galactic center. They are possible a triplet of protostars near the Galactic center.