Notes for Nuñez et al. "The broad-line region and dust torus size of the Seyfert 1 galaxy PGC50427"

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1. Introduction

but is systematically smaller by a factor of three than the sublimation radius Rsub predicted for graphite dust grains with a size of 0.05 μm in radius

Alternatively, theoretical simulations shows that an anisotropically illuminated dust torus, caused by an optically thick AD, places the inner concave region of the torus closer to the outer edge of the AD. Thereby increasing the response time of the torus, and thus explaining the systematic difference of the time delay with respect of the torus radius measured from time delay and from the sublimation temperature under an isotropically assumption

IR emission observed from Seyfert galaxies is dominated by thermal radiation from the hot dust close to the central AD