

# Hydrodynamical models of Narrow Line Regions in Seyfert Galaxies

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## Abstract

We propose to study large-scale outflows from Seyfert galaxies (SG). We will explore our hydrodynamical model of flows influenced by the gravitational and radiation fields of the central part of SG. The model predicts an outflow in the polar region which is driven by thermal and radiation pressures and is confined by a very hot ambient gas accreting on to a central black hole. Our preliminary calculation shows that this model promises to explain the kinematics of winds in the Narrow Line Regions of SG. We will apply the model to NGC 1068, NGC 4151, and Mrk 3 where winds were spatially resolved by HST. In particular, we will compute, based on our wind model, synthetic images and position-dependent line profiles (i.e., for many positions along a given slit) for direct comparison with the data from the Space Telescope Imaging Spectrograph. A similar model can be apply to outflows from other Active Galactic Nuclei and accreting systems.

**Investigators:**

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Number of investigators: 2

**Dataset Summary:**

Instrument	No. of Datasets	Retrieval Method	Retrieval Plan
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