



Astrophysics > Cosmology and Extragalactic Astrophysics

# Winding sense of galaxies around the Local Supercluster

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(Submitted on 27 Oct 2010)

We present an analysis of the winding sense (S and Z-shaped) of 1 621 field galaxies that have radial velocity between 3 000 km s<sup>-1</sup> to 5 000 km s<sup>-1</sup>. The preferred alignments of S- and Z-shaped galaxies are studied using chi-square, auto-correlation and the Fourier tests. We classified total galaxies into 32 subsamples and noticed a good agreement between the position angle (PA) distribution of S- and Z-shaped galaxies. The homogeneous distribution of the S- and Z-shaped galaxies is noticed for the late-type spirals (Sc, Scd, Sd and Sm) than that of the early-types (Sa, Sab, Sb and Sbc). A significant dominance of S-mode galaxies is noticed in the barred spirals. A random alignment is noticed in the PA-distribution of Z- and S-mode spirals. In addition, homogeneous distribution of the S- and Z-shaped galaxies is found to be invariant under the global expansion. The PA-distribution of the total S-mode galaxies is found to be random, whereas preferred alignment is noticed for the total Z-mode galaxies. It is found that the galactic planes of Z-mode galaxies tend to lie in the equatorial plane.

Comments: 16 pages, 8 figures, accepted on 22 Oct 2010 by RAA

Subjects: **Cosmology and Extragalactic Astrophysics (astro-ph.CO)**

Cite as: [arXiv:1010.5585v1](https://arxiv.org/abs/1010.5585v1) [astro-ph.CO]

## Submission history

From: Binil Aryal [[view email](#)]

[v1] Wed, 27 Oct 2010 06:44:56 GMT (512kb)

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