

**OBSERVATION OF DISTINCTION BETWEEN
THE GALAXIES AND ANTIGALAXIES IN THE UNIVERSE
BY GRAVITATIONAL-OPTICAL METHOD**

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A gravitational-optical distinction between the cosmic galactic and antigalactic clusters in the Universe is proposed. It is based on the Totally Gravitationally Neutral Universe (TGNU) concept proposed earlier (see, e.g., [1]). The TGN-Universe concept includes (a) enlarged (unbroken baryon, CPT and full $M_{\pm gr}$ gravitational) symmetries between massive fermions of Ordinary Matter (OM) / Ordinary Antimatter (OAM), as well as between Dark Matter (DM) / Dark Antimatter (DAM) particles and (b) the opposite gravitational properties of all massive and massless bosons, including OM-photons/OAM-antiphotons etc. The composite (OM+DM)-galactic and (OAM+DAM)-antigalactic clusters are equally presented and mutually gravitationally repulsive in TGNU. The cosmic OM- and OAM-photons, emitted by far-remote galaxies and antigalaxies (both visible but purely optically indistinguishable), get basic gravitational differences in the TGNU-concept. The OM-photons must be gravitationally attracted to the (OM+DM)-clusters and gravitationally repelled by the (OAM+DAM)-clusters and the OAMphotons, on the contrary, must be gravitationally attracted to the (OAM+DAM)-clusters and repelled by the (OM+DM)-clusters. The far-remote (OM+DM) galactic and (OAM+DAM) antigalactic clusters are optically-gravitationally distinguishable and detectable, because their OM- and OAM-photon rays deviations will be opposite if we observe them near a massive (OM+DM) deviation-galaxy or a star from our galactic group, which moves fast enough on the heavenly sphere across direction to these far-remote clusters.

References

[1] Gribov I A and Trigger S A 2016 J. Phys.: Conf. Series 653 012121