# NEW METALLICITY SCALE OF ELLIPTICAL GALAXIES

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This work presents a new calibration of the metallicity scale for elliptical galaxies based on new observational data. I use my observations with the 1000-channel IPCS of the 6m telescope. The spectra for 100 galaxies are published elsewhere (Sil'chenko & Shapovalova, 1989; Sil'chenko, 1990). A subsample of 30 ellipticals has become a base for the new metallicity scale.

To determine metallicities, I use 3 characteristics of the $MgI\lambda5175$ absorption line: an equivalent width, a magnesium index $I_{Mg}$ (Zasov & Sil'chenko, 1983), and the already known $Mg_2$ (Burstein *et al.*, 1984). The metallicity calibration formulae and individual metallicity estimations can be found in my more detailed paper (Sil'chenko, 1994).

My first aim was to look for a metallicity-luminosity relation by using my sample of ellipticals. The recent work of Da Costa (1992) presents such a relation for dwarf spheroidal galaxies. The metallicity-luminosity relation for my sample of giant-to-intermediate elliptical galaxies perfectly joins that for dwarf spheroidal galaxies. The existence of the united relation for all old-population galaxies with $M_V$ from -9 to -23 mag may be evidence for a single formation mechanism for most spheroidal galaxies.

The individual metallicity deviations from the mean relation correlate with $a_4$: boxy galaxies possess metallicity excess. It implies that merging may play a role in the evolution of some galaxies; but obviously it is a merging of gas-rich objects accompanying by a star formation burst.

## References

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