

## Standard, Equidistant and Secant Parallels

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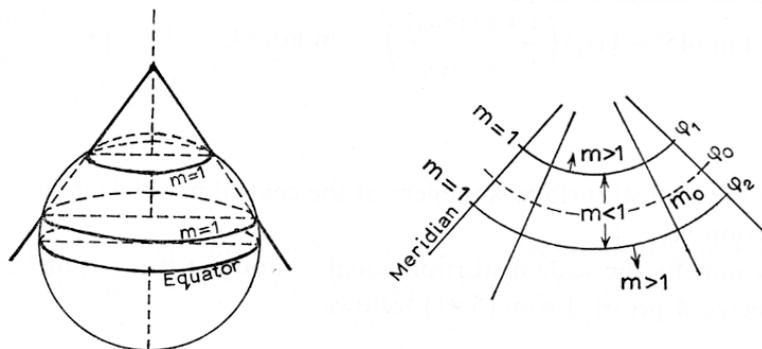
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### Abstract

Prof. Paulo Márcio Leal de Menezes and the author of this presentation prepared and submitted a manuscript called *Equidistant, Standard and Secant Parallels* to a scientific journal. Our paper was rejected by the journal editor based on three reviews, two negative and one positive.

The manuscript described a study of the equidistant, standard and secant parallels in normal aspect cylindrical and conical projections. Firstly, we did not recommend the explanation of cylindrical and conical projections as projections on a cylindrical or conical surface, because it leads to misunderstandings of projection properties. Furthermore, equidistant, standard and secant parallels are often found to be identical in the references. We carefully defined these three types of parallels and proved that they are different, so it is necessary to distinguish them in the theory and when teaching map projections.

The aim of this presentation is to show some problems we encountered and the need to continue the fight against illusions in the theory of map projections.



An (optical) illusion in the theory of map projections

For example, the figure taken from Richardus and Adler 1972, p. 94 is generally a misguided approach accompanied by an untruthful statement: "This is the Lambert conical conformal projection with two standard parallels. The cone intersects the ellipsoid at these parallel circles".

Critical thinking is a prerequisite of any academic effort, according to the author of this presentation. In this case, map projections theory is not a religion or a creed, but an area of science where no absolute authorities exist. Only something that can be derived as a logical conclusion from consciously accepted assumptions can be assumed to be correct. Any other approach is a strange and unacceptable. It will be shown that reviewers do not always possess sufficiently developed critical thinking.

Keywords: map projections, standard line, secant line, equidistant line, illusion