The chromatic number of a signed graphs

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REVISION REMARKS

We have made all minor corrections required by the referees, along with one or two other typos found by ourselves. There have been no substantial comments from the referees.

Additional minor corrections (essentially of linguistic character) have been suggested in a personal letter of Prof. Zaslavsky to the authors of this paper. More importantly, however, he strongly recommended that we change the term *signed chromatic number* of a signed graph to just *chromatic number* of a signed graph. The argument (quoted verbatim from his letter) is that

> " ... a signed graph only has one chromatic number (once we adopt the right definition, yours). The underlying graph has its own chromatic number. There is no reason the chromatic number of the signed graph should equal that of the underlying (unsigned) graph."

We have decided to follow his advice and changed the term "signed chromatic number" to "chromatic number" of a signed graph. This change also implies that the symbol $\chi_{\pm}$ for a "signed chromatic number" has to be replaced with the standard symbol χ for the (generic) chromatic number.

These changes are in line with the fact that the signed version of any graph invariant should include the unsigned version of that invariant as a special case for balanced signed graphs. In this situation, the original notation is applied to a wider class of objects without changing its original meaning.

The Authors