SEMINÁRIO
LÓGICA MATEMÁTICA

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Peano's structuralism

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ABSTRACT:

Recent historical studies have investigated the first proponents of methodological structuralism in late nineteenth-century mathematics. In this paper, I shall attempt to answer the question of whether Peano can be counted amongst the early structuralists. I shall focus on Peano's understanding of the primitive notions and axioms of geometry and arithmetic. First, I shall argue that the undefinability of the primitive notions of geometry and arithmetic led Peano to the study of the relational features of the systems of objects that compose these theories. Second, I shall claim that, in the context of independence arguments, Peano developed a schematic understanding of the axioms which, despite diverging in some respects from Dedekind's construction of arithmetic, should be considered structuralist.