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Abstracts of Short Communications and Posters

Section:

1. Logic

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A Sequence Model for Constructive Nonstandard Analysis
Contrary to popular opinion, nonstandard analysis does not have to be incompatible with constructive mathematics. Rather successful attempts upon a constructive nonstandard analysis have been made recently, e. g. by E. Palmgren. We establish a version within Bishop's constructive mathematics, reverting to the calculus of infinite sequences due to C. Schmieden and D. Laugwitz. Though prior to A. Robinson's nonstandard analysis, this approach was put aside because of oscillating zero-divisors and the absence of trichotomy. Not only that these are quite normal features from the constructive standpoint, even the whole theory is open for constructivisation. Moreover, we avoid choice, but can construct a total standard part map onto F. Richman's generalised reals. As an application, we treat Dirac distributions constructively.