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NON-ABSOLUTELY CONVERGENT INTEGRALS WITH RESPECT TO DISTRIBUTIONS

We introduce integrals of functions with respect to distributions (in the Euclidean setting) or distribution-like functionals on metric spaces. The integral is nonabsolutely convergent, similarly to the Denjoy-Perron (or Henstock-Kurzweil) integral. The process of integration is new even for integration with respect to the Lebesgue measure on the real line. Applications in spirit of Stokes' theorem are indicated. This is a joint work with Petr Honzík and Kristýna Kuncová.

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