Bogdanskii, Yu. V.

Stokes formula for Banach manifolds. (English. Ukrainian original) Zbl 07361380

Ukr. Math. J. 72, No. 11, 1677-1694 (2021); translation from Ukr. Mat. Zh. 72, No. 11, 1455-1468 (2020).

There are different generalizations of the Gauss-Ostrogradsky formula (a divergent version of the Stokes formula)

$$\int\limits_S \operatorname{div} \boldsymbol{X}\, d\mu = \int\limits_{\partial S} (\boldsymbol{X}, \boldsymbol{n})\, d\sigma$$

for infinite-dimensional and nonlinear cases [*A. V. Skorokhod*, Integration in Hilbert space. Translated from the Russian by Kenneth Wickwire. Berlin-Heidelberg-New York: Springer-Verlag (1974; Zbl 0307.28010); *H.-H. Kuo*, Gaussian measures in Banach spaces. Berlin-Heidelberg-New York: Springer-Verlag (1975; Zbl 0306.28010); *A. V. Uglanov*, Integration on infinite-dimensional surfaces and its applications. Dordrecht: Kluwer Academic Publishers (2000; Zbl 0951.46044); *Yu. V. Bogdanskii*, Ukr. Math. J. 64, No. 10, 1475–1494 (2013; Zbl 1287.58005); translation from Ukr. Mat. Zh. 64, No. 10, 1299–1313 (2012); *Yu. V. Bogdanskii*, Ukr. Math. J. 70, No. 5, 702–718 (2018; Zbl 07064794); translation from Ukr. Mat. Zh. 70, No. 5, 611–624 (2018)]. This paper proposes a divergent version of the Stokes formula for a surface of finite codimension embedded in a Banach manifold.

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