DOUBLE EXPONENTIAL MAP
ON SYMMETRIC SPACES

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We establish an asymptotic formula for the double exponential map operator on affine symmetric spaces. This operator plays an important role in the geometric calculus of symbols of (pseudo)differential operators on manifolds with connection, whose foundations were laid by Sharafutdinov. To obtain this result, we essentially use the structural theory of symmetric spaces and techniques of the Lie group theory. One of the key moments is an application of the Campbell–Hausdorff series in Dynkin form.

Key words and phrases: Riemannian manifold, (pseudo)differential operator on a manifold, homogeneous space, symmetric space, Lie group.

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