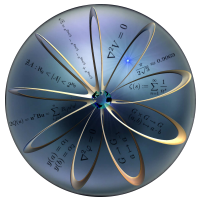

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Bargmann-Fock space

Canonical name	BargmannFockSpace
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Classification	msc 43A15
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Defines	Fock space

The Bargmann-Fock space (or simply Fock space) is the Hilbert space of entire functions, $\mathcal{F}^2(\mathbb{C})$ s.t.

$$\int_{\mathbb{C}} |F(z)|^2 e^{-\pi|z|^2} dxdy < \infty$$

with associated inner product

$$\int_{\mathbb{C}} F(z)\overline{G(z)} e^{-\pi|z|^2} dxdy$$

where $z = x + iy$

References

[1] V. Bargmann, "Remarks on a Hilbert Space of Analytic Function" *Proceedings of the National Academy of Sciences of the United States of America* **48** (1962): 199 - 204

[2] V. Bargmann & I. T. Todorov, "Spaces of analytic functions on a complex cone as carriers for the symmetric tensor representations of SO(n)" *Journal of Mathematical Physics* **18** 6 (1977): 1141 - 1148