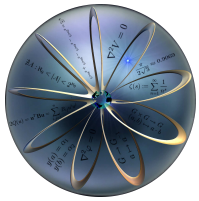

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locally convex topological vector space

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Definition Let V be a topological vector space over a subfield of the complex numbers (usually taken to be $\mathbb{R}$ or $\mathbb{C}$). If the topology of V has a basis where each member is a convex set, then V is a *locally convex topological vector space* [**?**].

Though most vector spaces occurring in practice are locally convex, the spaces L^p for $0 < p < 1$ are examples of spaces which are not locally convex.

References

[1] G.B. Folland, *Real Analysis: Modern Techniques and Their Applications*, 2nd ed, John Wiley & Sons, Inc., 1999.