# ◇♡  Properties of Vector Fields  ♡◇

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We have seen that the graph of a vector field can give us important information about the properties of the vector field.

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However, the info that graphs give us is not as we'd like.

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If you think of the v.f. as the velocity field for a fluid in motion, you might want to find the actual paths followed by particles in the fluid.

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Unfortunately, there are only a comparatively small # of cases where we can determine the paths given the velocity field.

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In the present, we introduce two simple but useful operators that can be applied to vector fields.

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Both the curl and divergence are generalizations of the notion of derivative that are applied to vector fields.

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Both directly measure important physical quantities related to a vector field $\vec{F}(x, y, z)$.