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The nature of mathematical models



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Abstract:

Mathematical modeling has become pervasive in applications, not only in physics or economy, but also in biomedicine and other “soft” sciences. To the conceptual formulation of a model there often follows its identification by statistical parameter estimation, given available observations. While the nature of the modeling process as well as its relationship with the attending statistical computations could both appear obvious to the practitioner, it may be useful to formalize them in a precise way. Insight into the process of (linear and nonlinear) model parameter estimation can be obtained from the description of the geometry of estimation in case space. The objective then is to also describe the geometry of modeling in the abstract, and to show how the correspondence between the conceptual context and the computational context can be formally represented.



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14:00



**Engineering Building
B316**



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**All interested students, faculty members,
and researchers are warmly invited.**