
XLI SEMANA DE LA MATEMÁTICA
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CONFERENCIA

POSITIVE THINKING

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RESUMEN

Several problems in mathematics involve positive matrices, that is, matrices whose entries are all positive. For example, knowing the rates of immigration and emigration between certain cities, and that such rates are constant over time, it is possible to deduce the populations of the cities in the distant future with extraordinary precision without even knowing almost nothing about the current population! This result involves the study of positive matrices using the so-called Perron-Frobenius theorem. The demonstration of this result is also fascinating because it uses and has connections to several areas of mathematics, as metric spaces (Banach Contraction Principle) and Geometry (non-Euclidean geometries).