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Graph theory and pulsar astronomy tie the knot: the use of labeled graph kernels in exploring the pulsar P-Pdot diagram

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Abstract content
 (Max 300 words)
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In this paper we explore the dependency of pulsar population structures (seen in P-Pdot diagrams) on the measurable characteristics of pulsars. We implement graph kernels for this investigation and it forms part of structure mining which is a domain of learning on structured data objects in machine learning. Among others, we implement one of the most powerful graph kernels that is based on random walks, and has been successfully applied to data mining projects in the field of astronomy. With instruments such as the SKA coming online in the near future, the quest continues to search for relationships between the different pulsar populations.

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