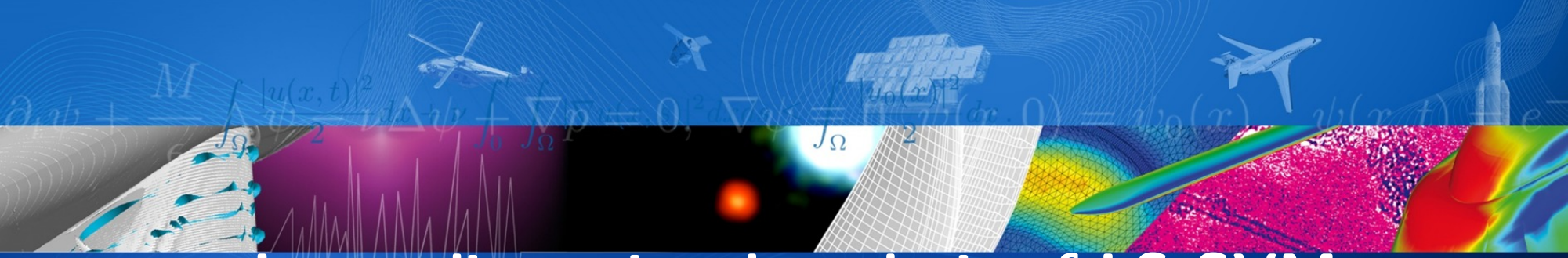

Large dimensional analysis of LS-SVM transfer learning: Application to POLSAR classification

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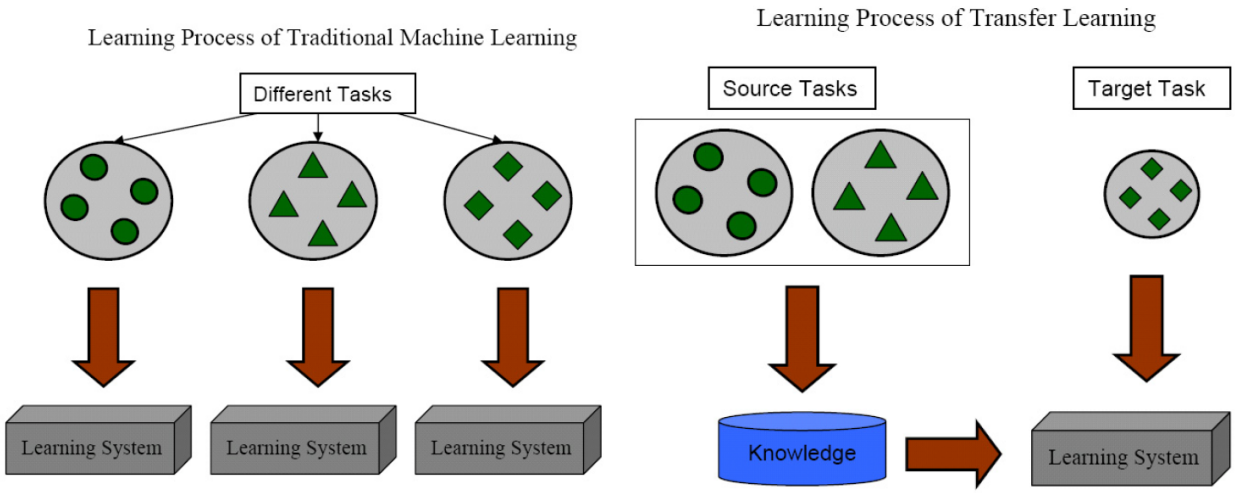
Context and motivation

- Analysis, Interpretation and Improvement of transfer learning with Random Matrix Theory



(a) Traditional Machine Learning (b) Transfer Learning

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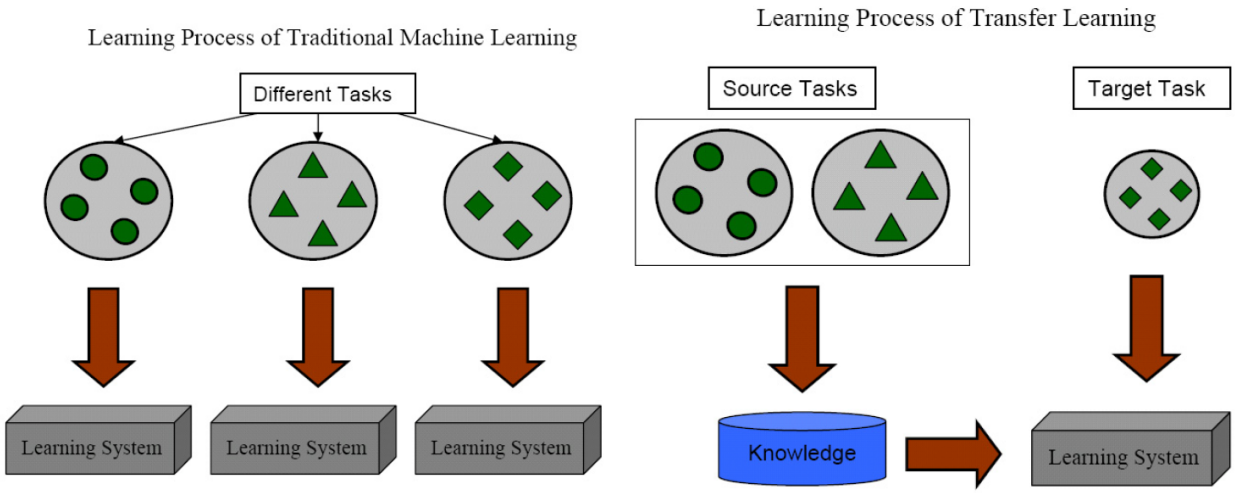

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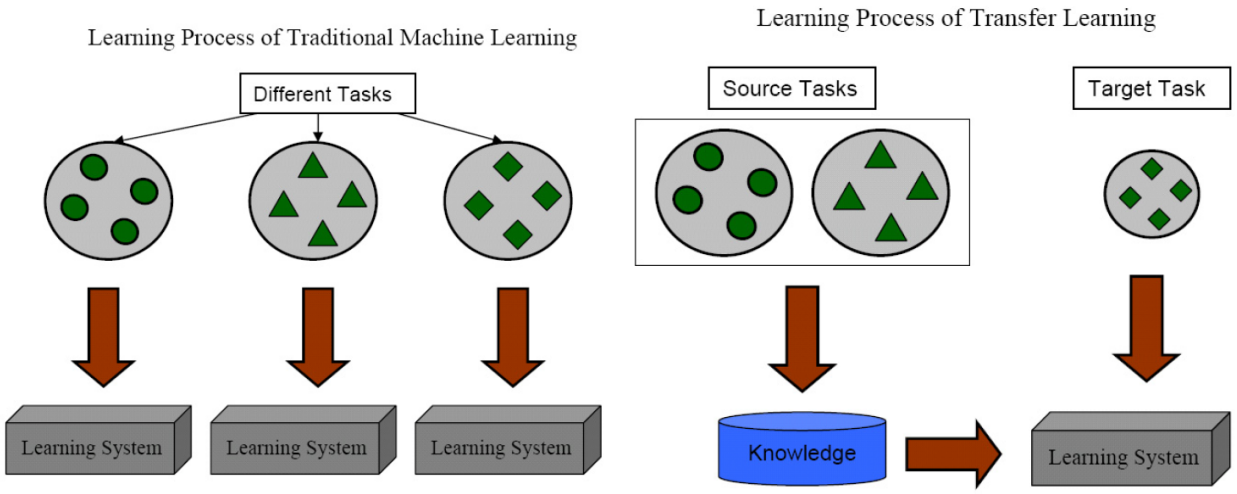

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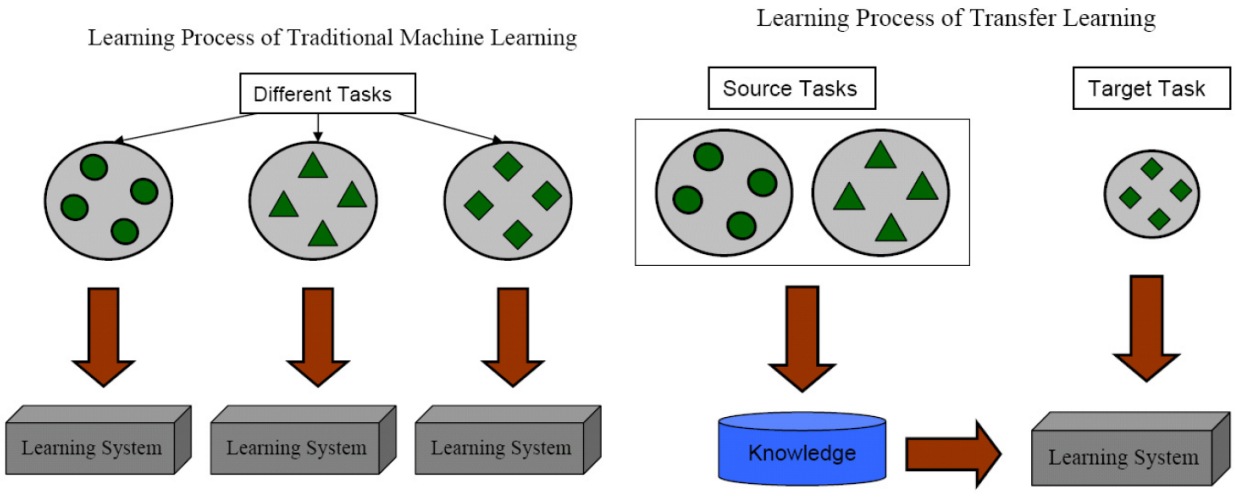

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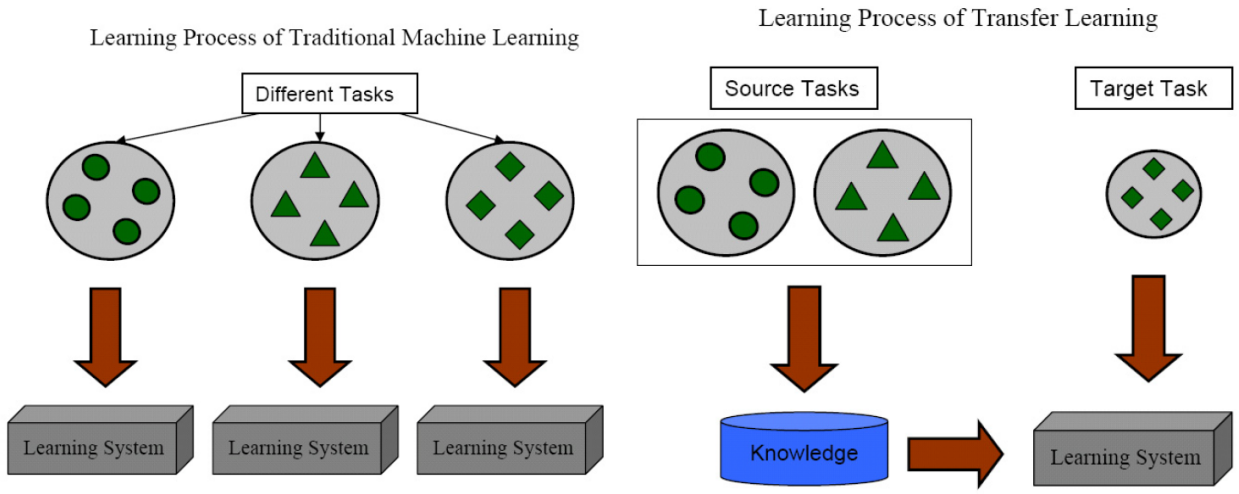

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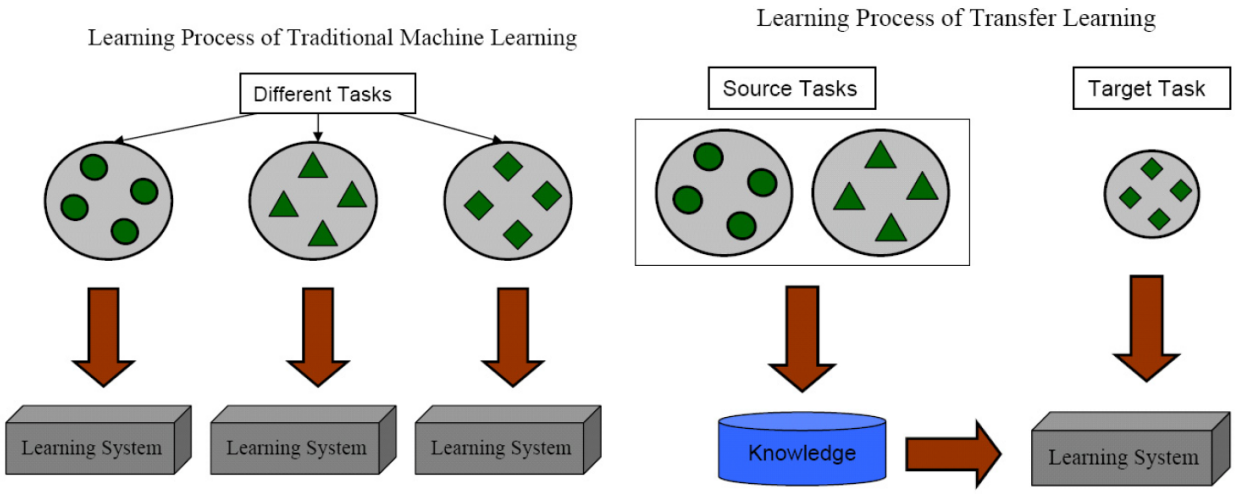

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- Application to **environmental monitoring** (few annotated data) : label optimization and performance guarantees in high dimension.

Large dimensional analysis of LS-SVM transfer learning :

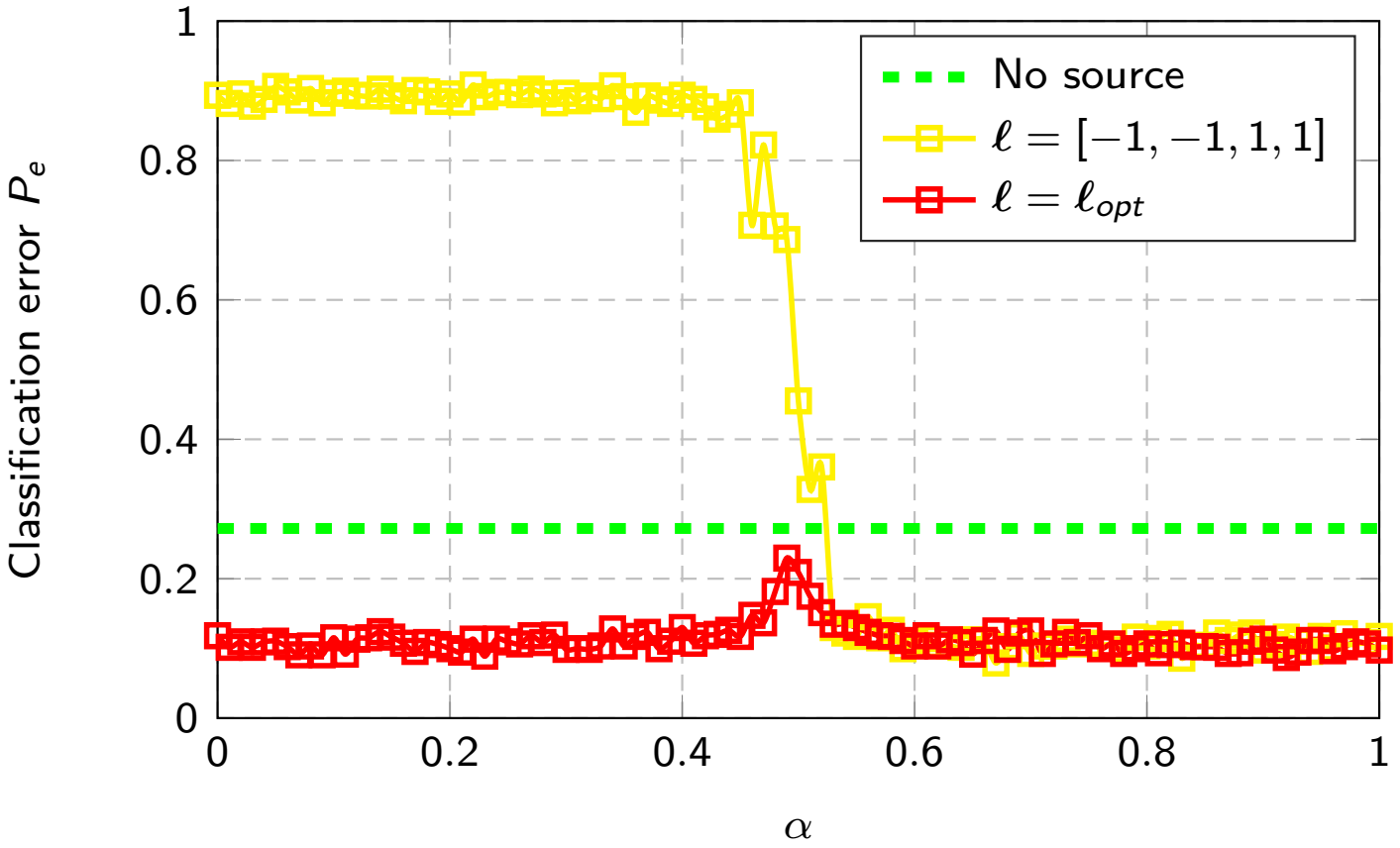

Figure – Classification performance for various label strategies ; $p = 512$, $n_{S_1} = n_{S_2} = 508$, $n_{T_1} = n_{T_2} = 4$, polynomial kernel f with $f(\tau) = 4$ and $f''(\tau) = 2$.