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# Multivariate pulse shape discrimination methods for low background experiments

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## *Abstract*

The application of the pulse shape discrimination (PSD) in low background experiments is aimed at disentangling the background events from the signal data set. Multivariate methods (e.g. artificial neural networks, projective likelihood approach) give very promising results. For example, in Borexino experiment,  $\alpha/\beta$  analysis can be performed with the use of neural networks, also Boosted Decision Tree (BDT) pulse shape parameter for  $\beta^+/\beta^-$  discrimination was already used. In the presentation, we will try to summarize the methods already available for data analysis and present future directions for improvement of PSD in low background experiments.

November 8, 2016 - 2:30 pm  
LNGS - "B. Pontecorvo" room