

# Sparsity oracle inequalities for mirror averaging aggregate

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► **To cite this version:**

Arnak S. Dalalyan, Alexandre Tsybakov. Sparsity oracle inequalities for mirror averaging aggregate. Journées MAS 2010, Bordeaux, 2010, Bordeaux, France. 2014. <inria-00510285>

**HAL Id: inria-00510285**

**<https://hal.inria.fr/inria-00510285>**

Submitted on 17 Aug 2010

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Journées MAS 2010, Bordeaux

Session : Lois à priori parcimonieuses et estimation en grande dimension

## **Sparsity oracle inequalities for mirror averaging aggregate**

par **Arnak Dalalyan** et Alexandre Tsybakov

We consider the problem of aggregating the elements of a (possibly infinite) dictionary for building a decision procedure, that aims at minimizing a given criterion. Along with the dictionary, an independent identically distributed training sample is assumed available on which the performance of a given procedure can be tested. In a fairly general set-up, we establish an oracle inequality for the Mirror Averaging aggregate based on any prior distribution. This oracle inequality is applied in the context of sparse coding for different tasks of statistics and machine learning such as regression, density estimation and binary classification.

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