

Ag@zeolite: Toward the Miniaturization of the NG Process

The IMS noble gas station requires to purify and to concentrate Xe by using compact and cost-effective process. CEA has worked for few years on the development of a new adsorbent material to purify and concentrate Xe: silver exchanged zeolite (MFI), Ag@ZSM5. This adsorbent exhibits about two order higher retention capacities than the classical active carbons. In addition, more recent experiments show that this adsorbent can be used directly to purify atmospheric air with high efficiency. Indeed, about 100 g of Ag@ZSM5 is able to recover all the xenon from 3 m3 of atmospheric air. These performances enable to explore new NG system design with very high compacity and energy-effectiveness. This adsorbent is tested directly on atmospheric air in the CEA laboratory and in the Health Canada laboratory (CEA-HC collaboration).

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