

# Rare Earth Oxide Hydrophobicity

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## **Abstract:**

Robust Rare Earth Oxides (REO) coatings are becoming increasingly interesting for their hydrophobic properties. In contrast to the more expensive conventional noble metal coatings, REO coatings represent a more sound investment for enhancing the efficiency of distillation processes. Understanding the mechanism of REO hydrophobicity would allow the improvement of such phenomenon and even to reach superhydrophobic states.

The hydrophobicity of CVD-deposited REO coatings has been investigated in order to determine the underlying mechanisms at the atomic level. XPS, SEM, Ellipsometry, AFM and contact angle measurements have been performed. Data have been summarized to give an overview of the evolution of hydrophobicity upon air exposure. I will start with a short introduction of my personal background and then develop the project I just described above. At last I will give some reasons about why I am applying in your Group. Best regards, Natacha