

RESEARCH PROJECT-1

Project Title	Understanding the charge dynamics in heterogeneous photo-electro-catalytic water splitting with femtosecond in-situ time-resolved X-ray absorption spectroscopy
Abstract	<p>The technical innovations of proposed research will be an extension of time-resolved methods to the PEC system under realistic working conditions. By using the time-resolved in-situ X-ray spectroscopy, we are planning to investigate important scientific problems in various PEC water splitting that have not been understood very well. They include (1) transient electronic structures of charge carriers in semiconductor cell, (2) transient charge carriers completing dynamics in the semiconductor heterojunctions. Our proposed research would not only deepen our molecular level understanding of PEC cells but also would assist the development of design principles for PEC water splitting systems.</p>
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Name of the Co-PI(s) with affiliation	NIL
Funding Agency	DST-Inspire, GoI
Amount Sanctioned	Rs. 35 Lakhs
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