**Solar Water Splitting by Doping-Treated BiVO4**

Won Jun Jo

Lawrence Berkeley National Laboratory

Efficient, sustainable, and large-scale solar hydrogen harvest requires the development of earth-abundant photocatalytic materials that cost-effectively convert sunlight energy into gaseous hydrogen (H2). To develop such photocatalysts, their atomic structure control is of primary importance since their properties (e.g., electronic band structure, electric behavior, catalytic activity, etc.) are governed by their atomic structure. In this regard, BiVO4’s atomic structure has been engineered via phosphorus, indium and molybdenum doping. The resulting dramatically enhanced photo-activity of doping-treated BiVO4 has been studied within both experimental and theoretical domains.