Solar Energy Materials 18 (1989) 217–221
North-Holland, Amsterdam

NITROGEN PHOTOREDUCTION WITH CUPROUS CHLORIDE COATED HYDROUS CUPROUS OXIDE

K. TENNAKONE *

Institute of Fundamental Studies, Hantana Road, Kandy, Sri Lanka
and
Department of Physics, University of Ruhuna, Matara, Sri Lanka

S. PUNCHIHEWA

Institute of Fundamental Studies, Hantana Road, Kandy, Sri Lanka

and

R. TANTRIGODA

The Open University of Sri Lanka, Nawala, Colombo, Sri Lanka

Received 10 June 1988; in revised form 8 August 1988

A composite catalyst consisting of hydrous cuprous oxide ($CuO_2 \cdot xH_2O$) impregnated with cuporus chloride was found to photoreduce dinitrogen to ammonia. It is suggested that the ability of this system to reduce dinitrogen depends on efficient hole scavenging by CuCl with self-sacrifice and chemisorption of dinitrogen on $Cu_2O \cdot xH_2O$ which is the reduction site.