

Abstract Submitted
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Photocatalytic Activity of TiO₂ Thin Films Obtained by the Sputtering RF in Wastewater JAIRO ARMANDO CARDONA BEDOYA, WILMER ASMED SANCHEZ VELANDIA, MIGUEL IBAN DELGADO ROSERO, ALEX ENRIQUE FLORIDO CUELLAR, Universidad del Tolima, Facultad de Ciencias, Depto. de Física, ORLANDO ZELAYA ANGEL, JULIO G. MENDOZA ALVAREZ, Centro de Investigación y de Estudios Avanzados, IPN, Depto. de Física — The photocatalytic activity of TiO₂ thin films in wastewater, under an UV irradiation, is studied. The films were prepared on corning glass substrates by the sputtering RF technique. We present evidence on the photocatalytic degradation, carried out by advanced oxidation processes (AOPs) in domestic wastewater pretreated with UASB (upflow anaerobic sludge blanket) reactors. TiO₂ films were illuminated with ultraviolet light during a time of 4 hours ($\lambda \cong 264$ nm). We could see the effect of degraded operation in the absorbance measurement using UV-VIS spectrophotometry. The results show an increased rate of degradation of the wastewater by 30% compared to the values reflected biologically treated wastewater by anaerobic reactors.

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