



US006793849B1

(12) **United States Patent**
Gruen et al.

(10) **Patent No.:** **US 6,793,849 B1**
(45) **Date of Patent:** **Sep. 21, 2004**

(54) **N-TYPE DROPIING OF NANOCRYSTALLINE DIAMOND FILMS WITH NITROGEN AND ELECTRODES MADE THEREFROM**

(75) Inventors: **Dieter M. Gruen**, Downers Grove, IL (US); **Alan R. Krauss**, deceased, late of Naperville, IL (US), Julie R. Krauss, Executor; **Orlando H. Auciello**, Bolingbrook, IL (US); **John A. Carlisle**, Plainfield, IL (US)

(73) Assignee: **The University of Chicago**, Chicago, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/398,427**

(22) PCT Filed: **Oct. 9, 2001**

(86) PCT No.: **PCT/US01/31528**

§ 371 (c)(1),
(2), (4) Date: **Dec. 12, 2003**

(87) PCT Pub. No.: **WO02/31839**

PCT Pub. Date: **Apr. 18, 2002**

Related U.S. Application Data

(60) Provisional application No. 60/314,142, filed on Aug. 22, 2001, and provisional application No. 60/239,173, filed on Oct. 9, 2000.

(51) **Int. Cl.**⁷ **H01B 1/04**; B01J 3/06; C01B 31/06; C23C 16/27; C30B 29/04

(52) **U.S. Cl.** **252/502**; 117/88; 117/929; 423/446; 427/577; 427/585; 427/249; 427/249.7; 427/249.8

(58) **Field of Search** 252/502; 204/192.15; 117/79, 88, 929; 423/446; 427/577, 585, 249, 249.7, 249.8, 902

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Primary Examiner—Mark Kopec

(74) *Attorney, Agent, or Firm*—Emrich & Dithmar, LLC.

(57) **ABSTRACT**

An electrically conducting n-type ultrananocrystalline diamond (UNCD) having no less than 10^{19} atoms/cm³ of nitrogen is disclosed. A method of making the n-doped UNCD. A method for predictably controlling the conductivity is also disclosed.

28 Claims, 6 Drawing Sheets

