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(12) **United States Patent**
Wober

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(54) **NANOWIRE ARRAYS COMPRISING
FLUORESCENT NANOWIRES AND
SUBSTRATE**

29/0669; H01L 51/0045; H01L 29/06; C01B
31/0206; C01B 2202/00; C01B 31/022;
C01B 3/0021; C01B 31/02; C01B 3/00;
G01J 1/04; G01J 1/42; G01J 5/08; B82Y
20/00

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See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
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This patent is subject to a terminal dis-
claimer.

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Related U.S. Application Data

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Primary Examiner — Francis M Legasse, Jr.

(51) **Int. Cl.**
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(52) **U.S. Cl.**
CPC **G01J 1/04** (2013.01); **G01J 1/42** (2013.01);
C01B 3/00 (2013.01); **G01J 5/08** (2013.01)

(57) **ABSTRACT**

(58) **Field of Classification Search**
CPC H01L 2221/1094; H01L 21/02603;
H01L 21/02606; H01L 51/0048; H01L

Described herein is a nanowire array, comprising a substrate,
a plurality of fluorescent nanowires extending essentially per-
pendicularly from the substrate and a reflective layer disposed
on the substrate in areas between the fluorescent nanowires;
wherein the fluorescent nanowires are operable to fluoresce at
a wavelength of a collective mode of the nanowire array.

23 Claims, 9 Drawing Sheets

