US008991614B2

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

(10) **Patent No.: US 8,991,614 B2**
(45) **Date of Patent: Mar. 31, 2015**

(54) **MICROFLUIDIC ULTRASONIC PARTICLE SEPARATORS WITH ENGINEERED NODE LOCATIONS AND GEOMETRIES**

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(*) 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.: **14/246,981**

(22) Filed: **Apr. 7, 2014**

(65) **Prior Publication Data**

US 2014/0216992 A1 Aug. 7, 2014

Related U.S. Application Data

(62) Division of application No. 13/571,640, filed on Aug. 10, 2012, now Pat. No. 8,727,129.

(60) Provisional application No. 61/524,020, filed on Aug. 16, 2011.

(51) **Int. Cl.**
B03B 5/00 (2006.01)
B01D 21/28 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***B01D 21/28*** (2013.01); ***B01D 21/283*** (2013.01); ***B01L 3/502761*** (2013.01); ***G01N 33/491*** (2013.01); ***G01N 33/48728*** (2013.01); *B01D 2221/10* (2013.01); *B01L 2200/0636* (2013.01); *B01L 2200/0652* (2013.01);
(Continued)

(58) **Field of Classification Search**
USPC 209/454, 455, 457, 458
See application file for complete search history.

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(57) **ABSTRACT**

An ultrasonic microfluidic system includes a separation channel for conveying a sample fluid containing small particles and large particles, flowing substantially parallel, adjacent to a recovery fluid, with which it is in contact. An acoustic transducer produces an ultrasound standing wave, that generates a pressure field having at least one node of minimum, pressure amplitude. An acoustic extension structure is located proximate to said separation channel for positioning said acoustic node off center in said acoustic area and concentrating the large particles in said recovery fluid stream.

3 Claims, 5 Drawing Sheets