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[54] **ELECTRODE ARRAY ELECTROMAGNETIC VELOCIMETER**

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[57] **ABSTRACT**

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A velocimeter for measuring the velocity field characteristics of a conductive fluid moving over a surface is provided. A magnet has a central axis that is aligned with a direction of fluid movement of interest such that a plurality of magnetic flux lines extend generally normal from the surface. A plurality of electrode pairs provide electrical output signals that are proportional to variations in the magnetic flux lines as the conductive fluid flows therethrough in accordance with Lorentz forces. Each electrode pair is disposed symmetrically about the central axis of the magnet. The plurality of electrodes are mounted in a fixed relation with the magnet. The electrical output signals from the electrode pairs are processed and displayed as the velocity field characteristics of the fluid in the direction of interest.

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[52] **U.S. Cl.** 73/861.15; 73/861.16

[58] **Field of Search** 73/861.15, 861.16, 861.17

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8 Claims, 6 Drawing Sheets

