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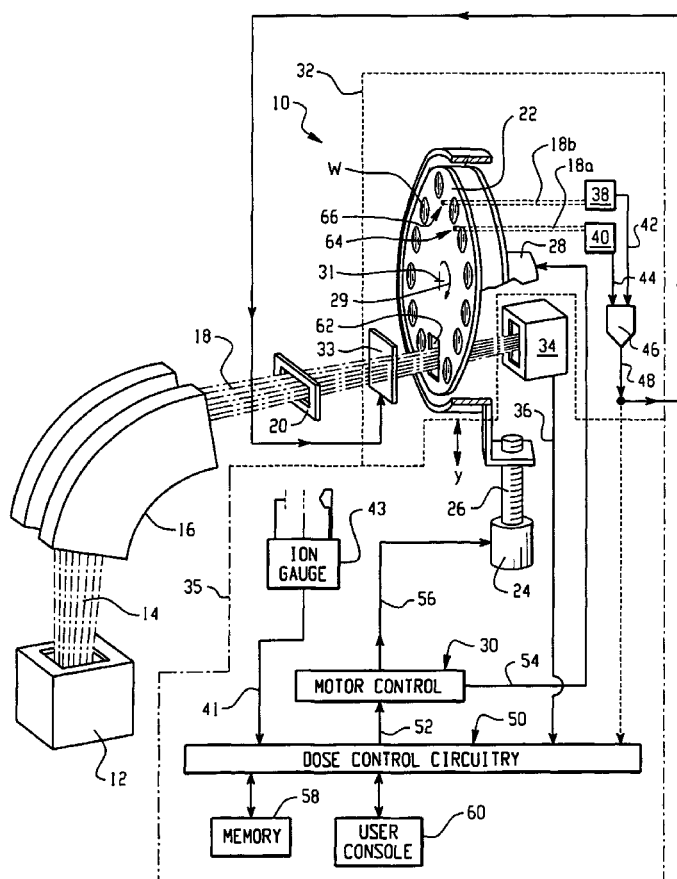
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- (72) Inventor: **HALLING, Alfred, Michael**; 36R Clark Street, Danvers, MA 01923 (US).
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- (74) Agents: **BURKE, Steven, D.** et al.; R.G.C. Jenkins & Co., 26 Caxton Street, London SW1H 0RJ (GB).
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- (71) Applicant: **AXCELIS TECHNOLOGIES, INC.**  
[US/US]; 55 Cherry Hill Drive, Beverly, MA 01915 (US).
- (71) Applicant (*for CA only*): **EATON LIMITED** [GB/GB];  
P.O. Box 22, Norfolk Street, Worsley Road North, Worsley, Manchester M28 3ET (GB).
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(54) Title: IN-PROCESS WAFER CHARGE MONITOR AND CONTROL SYSTEM FOR ION IMPLANTER



(57) Abstract: An in-process charge monitor and control system (32) for an ion implanter is provided, comprising: (i) wafer support (22) upon which a plurality of wafers (W) may be positioned for implantation by an ion beam (18), the support having portions thereof disposed intermediate adjacent wafers that are more or less electrically conductive than surfaces of the wafers, the wafer support (22) further having a center (31) from which each of the plurality of wafers is substantially equidistant, the wafer support further provided with first and second apertures (64, 66) disposed substantially equidistant from the center (31); (ii) first and second electrical charge monitors (40, 38) for receiving first and second portions of the ion beam (18a, 18b) through the first and second apertures (64, 66) respectively, and for outputting first and second output signals (44, 42), respectively, indicative of an amount of ion beam current received; and (iii) a comparator (46) for comparing the first and second output signals (44, 42) and for outputting a third output signal (48) indicative of a difference in ion beam current received by first and second electrical charge monitors (40, 38), wherein the third output signal (48) is used as an input to a charge neutralization system (33) of the ion implanter to control the supply of low energy electrons produced thereby.



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