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(57) Abstract

The present invention relates to single crystal silicon, in ingot or wafer form, which contains an axially symmetric region which is free of agglomerated intrinsic point defects, and a process for the preparation thereof. The process comprises controlling growth conditions, such as growth velocity, v, instantaneous axial temperature gradient, G_0, and the cooling rate, within a range of temperatures at which silicon self-interstitials are mobile, in order to prevent the formation of these agglomerated defects. In ingot form, the axially symmetric region has a width, as measured from the circumferential edge of the ingot radially toward the central axis, which is at least about 30 % the length of the radius of the ingot. The axially symmetric region additionally has a length, as measured along the central axis, which is at least about 20 % the length of the constant diameter portion of the ingot.