

Abstract

Method and device for production of a crystal rod with reduced pendulum deflection during the pulling process

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The invention relates to a method of producing a single-crystal rod, especially from silicon, by means of a pulling device (110) of a crystal pulling device (100), where the crystal pulling device (100) defines a center of pendulum rotation D through which a defined axis of rest of the crystal pendulum runs essentially along a height axis, wherein, during at least one pulling process, via actuation of the pulling device (110) with a control device (120), an essentially gradually progressive single-crystal rod section with an associated essentially gradually progressive assigned single-crystal length is pulled from a melt according to a settable, variable target pulling speed of the pulling device (110) to give the single-crystal rod. During at least one phase of the pulling process, such a controlled, variable setting of the target pulling speed is undertaken via controlled actuation of the pulling device (110) via the control device (120) in such a way that, after each change in the setting of the target pulling speed has been made, for the continuation of the pulling process, maximum pendulum deflections of the progressive single-crystal rod section based on the axis of rest of the crystal pendulum develop as a function of the progressive pulling time and/or progressive single-crystal length, the magnitudes of which and/or differential magnitudes of which from successive magnitudes are reduced at least in phases.

Figure for the abstract: figure 3