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Growing profile of single crystals using polymer materials

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In various devices and instruments monocrystals are used, after pre-treatment, in order to give crystal, the needed form. To obtain the desired product, grown crystal should be sawn, grin out, sanded up, polished, drilled, etc. In all these operations, there is a major problem that is not always possible by mechanical treatment to give crystal the needed profile. These circumstances greatly reduce the possibility of usage of grown crystal and interfere the improvement of a wide variety of devices operating on semiconductors, piezoelectric and optically active materials. Another important factor interfering the usage of crystals is the degradation of physical properties monocrystals upon mechanical treatment. One of the promising ways to resolve these problems is definitely to find ways of growing monocrystals of the desired profile. To solve this problem, drew attention to the following aspect: inorganic salts in organic non-polar solvents are practically insoluble. If on the seeds of monocrystals of these salts tubes made of polymeric material are attached, it will be possible to grow a monocrystals with a hollow channel, since tube then can be removed by placing grown monocrystals in organic solvent. The report describes the design of a reactor for growing monocrystals from solutions and the use of monodisperse latexes for the production of α -LiI03 monocrystals containing hollow channels. The report presents photographs of profile monocrystals.

Biography

Arnos Arshaki Hovhannisyan has received his Doctorate from the Moscow Technical Institute of Fine Chemical Technology. He is the Doctor of Chemical Sciences and is working as Professor. He is the Head of Laboratory of Polymer Dispersions. He has published more than 100 works in well-known journals and a monograph titled "The Theory of Emulsion Polymerization".

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