

## QUANTUM ANNEALING AND COMPUTATION: A BRIEF DOCUMENTARY NOTE\*

ASIM GHOSH\*\* AND SUDIP MUKHERJEE\*\*

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*A Major breakthrough in Quantum Computation has recently been achieved employing the Quantum Annealing technique, for which the idea was first mooted by a group of Calcutta-based scientists; see Breakthrough in Quantum Computation, by Prof. Indrani Bose, Science and Culture, vol. 79, Nos. 9-10, pp. 381-382 (2013). In view of the importance of these developments and the claims for originality of various sources (papers) of the idea and its subsequent theoretical extensions, experimental verifications, implementations, etc (by different groups with acknowledgements and citations), it was felt that an extensive document is needed. This documentary note gives the title and abstract (with receipt dates) and some relevant excerpts of some of the high impact papers in this series of development. Along with some historical introduction and notes, it tells briefly the major achievements made in the respective papers, reiterated, often in their captions, the context of the specific issue addressed in the paper. This document is expected therefore to be helpful to follow this exciting sequence of developments in achieving a particular kind of efficient analog quantum computer (based on quantum annealing) and in identifying their respective sources (through the important papers, ideas developed in them and their links with the earlier ideas or papers).*

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