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Vortragsankündigung

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Titel: Reversible Logic Design

Abstract: Amongst the currently considered emerging technologies, reversible logic is a promising one e.g. due to its application in quantum computing. However, since the corresponding computation paradigm is different, several building blocks such as adders, subtractors, multipliers, or ALUs have to be re-designed. In this talk, I describe a selection of these circuits and compare the respective designs with their existing counterparts. In addition, I consider further realizations that rely on multiple valued logic and, hence, yield ternary and quaternary reversible circuits which may offer benefits with respect to performance, power consumption, and production cost.

Short Bio: Dr. Majid Haghparast received his B.Sc. in computer hardware engineering in 2003. He received his MSc. and Ph.D. degrees in computer architecture in 2006 and 2009, respectively. Since 2007, he has been affiliated with the Computer Engineering Faculty, IAU University, Tehran, Iran as an assistant professor. He has published more than 50 research papers in various international journals and conferences. His research interests include wireless sensor networks, cloud computing, reversible logic and computer arithmetic. Dr. Haghparast is on the panel of reviewers for various international journals. His current h-index is 15 according to Google Scholar.

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