Matematični kolokviji

Learning to be a theoretical computer scientist by learning the classical and quantum PAC learning

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This is a story how a harmonic analyst may try to penetrate into the area of theoretical computer science (TCS). PAC=probably approximately correct is notion of TCS where one should determine the object (a function, a matrix,...) by making a "small" number of trials. One pays the price: trials are random and so the object will be found only with large probability, another price is that it will be found approximately, with a possible small error. PAC learning is a classical part of TCS, where many beautiful results are known. Not long ago a sudden breakthrough in a classical PAC learning was made by my former student Paata Ivanisvili jointly with Alexandros Eskenazis. The quantum analog is PAC learning of big matrices. This will be the main topic of my talk as it leads to an interesting question a lá Remez and Bernstein inequalities. The talk is based on joint results with Lars Becker, Ohad Klein, Joseph Slote and Haonan Zhang.

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