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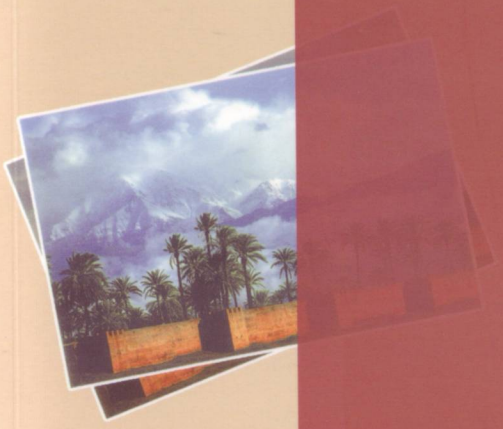

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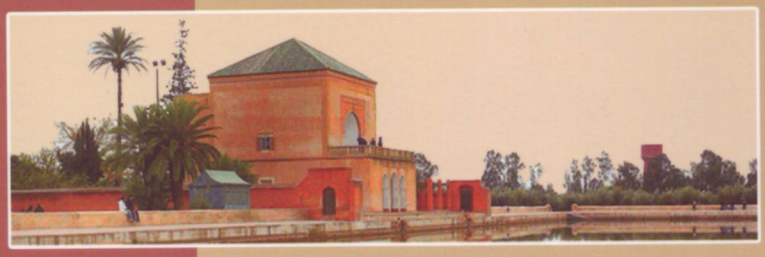
Building Careers with Physics



ABSTRACTS

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PP5-B
Modern physics at high schools nontraditionally and motivationally: Interactive approach only with elementary algebra

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We present an outline of a nontraditional version of modern physics course, which reflects progress in modern technologies and also in modern teaching approaches. The course intended for final years of high schools and based on Feynman[1], Taylor and Wheeler's[2] works has been developing by us since 1999.
We use technology of interactive lecture demonstrations of Thornton & Sokoloff[3] combined with Mazur's Peer instruction[4]. The most powerful tool for introducing fundamental ideas became the computer software, especially Physlets technology. Contents of the course without advanced math was also created in collaboration with Jon Ogborn[5], leader of UK project Advancing Physics and Edwin Taylor[2] from MIT, author of Feynman's quantum university course of quantum mechanics.
As our results show contents and methods are very motivating for students, but simultaneously deeply develop conceptual understanding. The similar approach and content is included in the subject - Modern physics for future high school teachers taught by us at our University.

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