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Software defined radio for hands-on communication theory(Conference Paper)

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Based on a workshop developed at INICTEL-UNI, this paper presents the methodology and considerations taken to improve the experiences in communication laboratory sessions in Peruvian universities with Software Defined Radio platforms, using a HackRF-One for transmission and a RTL-SDR for reception together with GNUradio Companion, an open source software. The use of these tools allows real communications to be implemented with low cost, simplicity and flexibility that represents a perfect combination for undergraduate laboratory sessions. In addition, it is also presented an 8-PSK communication system implementation as an experience to digital communications as a viability of this proposal. © 2017 IEEE.

Author keywords

- 8-PSK Modulation
- Communication Theory
- Digital Modulation
- Engineering Education
- GNUradio Companion

- HackRF-One
- Laboratory Sessions
- Methodology
- RTL-SDR
- SDR
- Software Defined Radio

Indexed keywords

Engineering controlled terms:	Analog circuitsComputation theoryDigital communication systemsDigital radioEducationEngineering educationInformation theoryLaboratoriesModulationOpen source softwareOpen systemsRadioRadio receiversRadio transmissionSoftware engineering
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