Guidelines for Student Reports

Pianificazione di Reti LTE (4G)

A. Conati

Abstract

Le reti di prossima generazione (4G) saranno basate sullo standard LTE (Long Term Evolution) attualmente in fase di definizione e completamento. Uno dei problemi principali che i gestori di rete dovranno affrontare nel passaggio alla nuova tecnologia sarà la ri-pianificazione dei siti (allocazione canali, codici, etc.) al fine di massimizzare la probabilità di copertura nell'intero territorio. Tra gli approcci attualmente in fase di studio, risulta di particolare interesse la possibilità di automatizzare tale pianificazione mediante tool di ottimizzazione stocastica che, accoppiati con metodologie di predizione di propagazione e traffico dati, potrebbero fornire uno strumento rapido ed efficace per evitare sovraccarichi ed errori onerosi da risolvere nelle fasi operative della rete. Obiettivo dell'attività sarà pertanto lo studio delle caratteristiche dello standard LTE dal punto di vista della sua pianificazione (gradi di libertà della rete, codici, canali) e la realizzazione di un tool di pianificazione basato su algoritmi evolutivi che si integri con software commerciali di predizione della propagazione, quali ATOLL.

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