D2D Communications
Underlaying Wireless Powered Communication Networks
ABSTRACT

• In this paper, we investigate the resource allocation problem for D2D communications underlaying wireless powered communication networks, where multiple D2D pairs harvest energy from a power station equipped with multiple antennas and then transmit information signals simultaneously over the same spectrum resource.

• The aim is to maximize the sum throughput via joint time scheduling and power control, while satisfying the energy causality constraints.
EXISTING SYSTEM

• The formulated non-convex problem is first transformed into a nonlinear fractional programming problem with a tactful reformulation.
• Then, by leveraging D.C. programming, a suboptimal solution to the non-convex problem is obtained by iteratively solving a sequence of convex problems.
• In WPCNs, a power station transfers wireless energy to some low-power users with a single antenna due to the hardware constraint.
PROPOSED SYSTEM

• In this paper, we investigated the resource allocation scheme for D2D communications underlaying WPCNs, where the harvest-then-transmit protocol was employed.

• We tried to maximize the sum throughput of all D2D pairs while satisfying the energy causality constraints.

• The considered joint time scheduling and power control problem was formulated as a non-convex optimization problem.

• By leveraging D.C. programming, a suboptimal solution of the non-convex problem can be obtained by iteratively solving a sequence of convex problems.
HARDWARE REQUIREMENTS

• Processor - Intel core i3
• RAM - 2B
• Hard Disk - 20 GB
SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2
- Front End : OTCL (Object Oriented Tool Command Language)
