

Section 24.1: Repurposing Wireless Spectrum

Reference: "Economics and Computer Science of a Radio Spectrum Allocation," by Kevin Leyton-Brown, Paul Milgrom, & Ilya Segal.

Textbook by TR: Twenty lectures on Algorithmic Game Theory (PNAS 2017)

From Television to Mobile Phones

- **spectrum** = usable frequencies (for TV broadcasting, etc.)
- **channel** = 6 MHz block of spectrum
 - ex: channel 14 = 470-476 MHz; channel 15 = 476-482 MHz; etc.
- allocated to TV stations in mid-20th century
- 21st-century competing use of spectrum: mobile/wireless data transmission
 - => exploding usage, need more
dedicated frequencies for cellular data

A Recent Reallocation of Spectrum

As of 7/13/2020: no more U.S. TV stations

broadcasting on channels 38-51 (614-698 MHz).

