

Practical Aspects of Enforcement in Cooperative Sharing

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Research project proposal

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- Spectrum sharing will result in interference, period.
 - Response to interference events is enforcement
- Can reside on range from ex ante to ex post
 - Requires cost efficient detection of interference events by entrant or primary
 - Adjudication techniques must be low cost and mutually trustworthy

What needs to be done

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- Develop heuristics to guide balance of ex ante to ex post techniques
- Develop adjudication that is “lightweight”, cost efficient and trustworthy

How to implement research

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- Model incumbent and entrant behavior under different environments
- Develop credible “lightweight” ex post adjudication systems
- Develop heuristics by studying specific sharing situations
 - 1695-1710 MHz
 - 1755-1850 MHz
 - 3500-3650 MHz

Challenges

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- “Lightweight”
- “Credible”
- Realistic cost models of as yet undeveloped technology

Benefits

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- Good enforcement approaches will increase the viability of spectrum sharing
- Effective ex post enforcement can result in
 - Greater flexibility
 - Better opportunity to learn and adapt