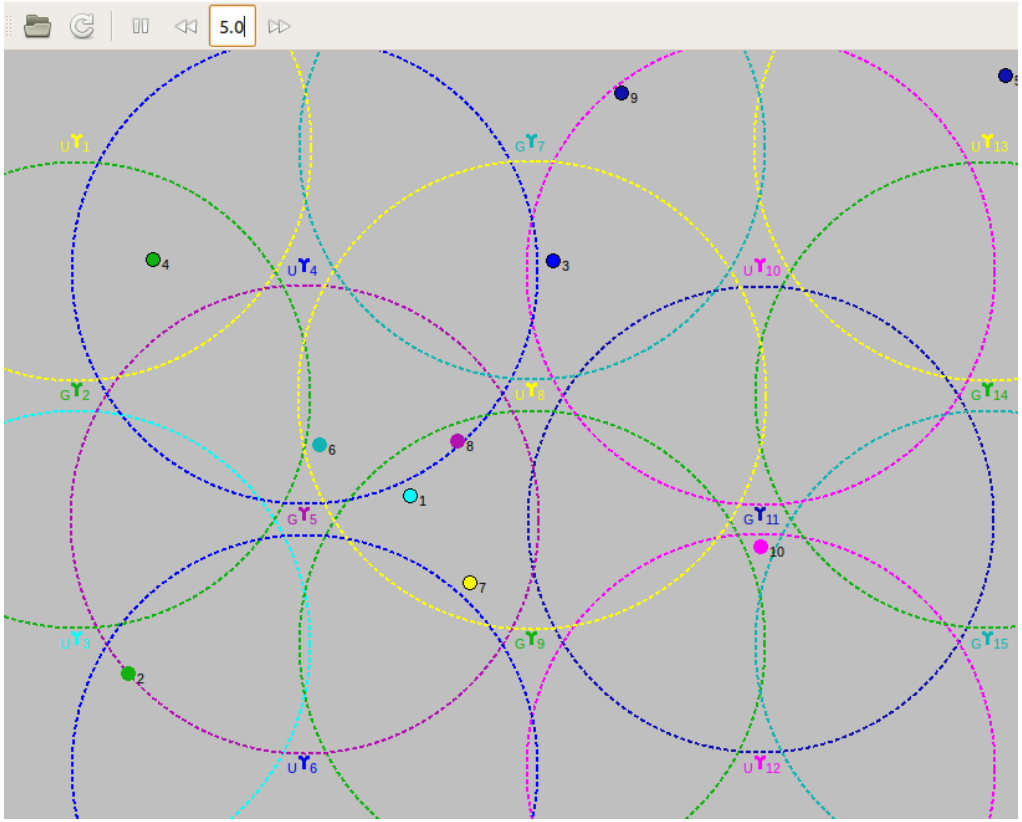
Handover



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Plan

1. Subject
2. Handover algorithm
3. Log file
4. Study of parameters effects
5. Conclusion

Subject

Inputs for each BTS :

- Pe : Emission power
- Ge : Emission gain
- F : Frequency
- HO_MARGIN : Minimum marge between two signals to allow handover ;
- MS_TXPWR_MAX : Maximum emission power allowed to be used by the MS in a cell.

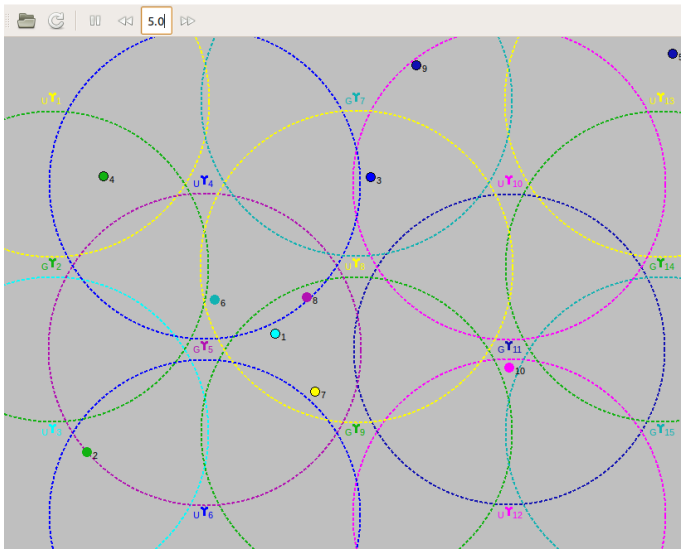
- BTS_TXPWR_MAX : Maximum emission power allowed to be used by the BTS in a cell.
- RXLEV_MIN : Electromagnetic field level to access to a cell.
- MAX_MS_RANGE : Maximum distance between Mobile Station and BTS.
- L_RXQUAL_H: Minimum quality to allow handover.
- L_RXLEV_DL_H : Minimum received level to allow handover on downlink.
- L_RXLEV_UP_H : Minimum received level to allow handover on uplink.

Inputs for each Mobile Station (MS) :

- Pe : Emission power
- Ge : Emission gain
- P : Maximum Emission Power of the MS

Outputs

- Log file
- Graphic interface with MS colored in the BTS color it is linked (Python language)



Handover algorithm

- Measure phase : RxLev uplink and downlink, RxQual uplink and downlink, Distances between MS and BTS each 40ms
- Mean phase on 12 samples each 480ms
- Storing between 8 and 12 means
- Construct neighbour list, looking measures of other cells
- For each cell of the neighbour list, decide if handover is possible.
- If handover is possible, the order to change of bts must be repeated 3 times.

Log file

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Study of parameters effects

- Overlap between BTS
- Handover margin
- Number of orders to change from a BTS to another

- High overlap and weak ho margin
  -
- High overlap and strong ho margin
  -

- Low overlap and weak ho margin
  -
- Low overlap and strong ho margin
  -

Conclusion

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Questions ?