### Appendix-2

#### Appendix-2-Tab. 1. The experiment details and the model performance

| Experiments | Training data | Case numbers | Beam mask | Unified beam angles | Using pre-trained model | Testing cases | Results | % of best prediction | Best model |
|-------------|---------------|--------------|------------|---------------------|-------------------------|---------------|---------|---------------------|------------|
| Experiment 1-1 | 7 beams | 258 | √ | x | - | 7 beams & same beam setting | 28.6% | | |
| Experiment 1-2 | 7 beams | 45 | √ | √ | x | 0% | |
| **Experiment 1-3** | 9 beams | 45 | √ | √ | √ | 71.4% | | |
| Experiment 2-1 | 7 beams | 46 | √ | √ | √ | 85.7% | | |
| Experiment 2-2 | 7 beams | 46 | x | √ | √ | 0% | | |
| Experiment 2-3 | 7 beams | 213 | √ | x | √ | 14.3% | | |
| Experiment 2-4 | 7 beams | 213 | x | x | √ | 0% | | |
| Experiment 3-1 | 9 beams | 21 | √ | x | √ | 7.1% | | |
| **Experiment 3-2** | 9 beams | 251 | √ | √ | √ | 85.8% | | |
| Experiment 3-3 | 9 beams | 230 | √ | √ | x | 7.1% | | |
| Experiment 3-4 | 9 beams | 251 | x | √ | √ | 0% | | |
| Experiment 4-1 | 9 beams | 258 | √ | √ | √ | 28.6% | | |
| **Experiment 4-2** | 9 beams | 45 | √ | √ | x | 50.0% | | |
| Experiment 4-3 | 9 beams | 45 | x | √ | x | 0% | | |
| Experiment 4-4 | 9 beams | 213 | √ | x | √ | 21.4% | | |