|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CWRU  故障类型 | | 频谱 | | | 功率谱 | | |  |  |
| FFT | 归一化幅值 | Hilbert  包络 | 直接法 | 周期图 | 间接法 |  |  |
| **1730rpm** | **IR-0.007** | √ | x | √ | x | o | √ |  |  |
|  | OR-0.007-3 | o | o | √ | x | o | x |  |  |
|  | OR-0.007-6 | o | o | √ | x | o | o |  |  |
|  | Ball-0.007 | x | x | x | x | x | x |  |  |
| **1797rpm** | **IR-0.007** | √ | o | √ | x | √ | √ |  |  |
|  | OR-0.007-3 | o | o | √ | x | o | x |  |  |
|  | OR-0.007-6 | o | x | √ | o | o | o |  |  |
|  | Ball-0.007 | x | x | x | x | x | x |  |  |
| **1772rpm** | **IR-0.007** | √ | o | √ | x | √ | √ |  |  |
|  | OR-0.007-6 | o | o | √ | x | o | o |  |  |
|  | OR-0.007-12 | x | x | √ | x | o | x |  |  |
|  | Ball-0.007 | x | x | x | x | x | x |  |  |
| **1797rpm** | **IR-0.007** | √ | o | √ | o | √ | √ |  |  |
|  | OR-0.007-3 | o | o | √ | x | o | o |  |  |
|  | Ball-0.007 | x | x | x | x | x | x |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 振动数据（b216）  故障类型 |  | 频谱 | | | 功率谱 | | |
|  | FFT | 归一化幅值 | Hilbert  包络 | 直接法 | 周期图 | 间接法 |
| Data: 20210627 |  |  |  |  |  |  |  |
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