■ Training Data

Types of Training Data

|  |  |  |
| --- | --- | --- |
| No. | Type | Contents |
| 1 | Total solar power output (each area) | Period: 2016/1/1~2017/12/31  Total solar power output measured in each area (S1, S2) |
| 2 | Temperature and global solar radiation values | Period: 2016/1/1~2017/12/31  Temperature and global solar radiation values of 4 measurement locations. |

Data 1: Targeted Solar Power Plants

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Area | Solar  Power Plant | Latitude (degrees) | Longitude (degrees) | Capacity (MW) | Azimuth (ave.) (degrees) | Tilt angle (ave.) (degrees) |
| 1 | S1 | A | 42.6559 | 141.6747 | 23.0 | 178 | 25 |
| 2 | B | 42.6365 | 141.6947 | 15.2 |
| 3 | C | 42.6268 | 141.8433 | 15.2 |
| 4 | D | 42.6608 | 141.7260 | 29.8 |
| 5 | E | 42.7165 | 141.7940 | 111.0 |
| 6 | F | 42.5628 | 141.3348 | 18.8 |
| 7 | G | 43.1709 | 141.7012 | 9.0 |
| 8 | H | 42.7050 | 141.7678 | 45.6 |
| 1 | S2 | I | 42.9937 | 144.1850 | 30.0 | 182 | 31 |
| ２ | J | 43.6810 | 145.0409 | 10.2 |
| 3 | K | 43.8694 | 144.4827 | 9.1 |
| 4 | L | 42.7971 | 143.4906 | 22.0 |
| 5 | M | 43.0228 | 144.2990 | 21.7 |
| 6 | N | 42.9087 | 143.9677 | 24.7 |
| 7 | O | 42.6300 | 143.2911 | 22.0 |

Data2: Measurement Locations (Temperature and Global Solar Radiation Values)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Area | Measurement Location | Latitude (degrees) | Longitude (degrees) |
| 1 | S1 | q1 | 43.1190 | 141.5388 |
| 2 | q2 | 42.6347 | 141.5563 |
| 3 | S2 | q3 | 43.8087 | 143.8913 |
| 4 | q4 | 42.9849 | 144.4130 |

■ Specification

1. Training Data 1: Actual power output data from targeted solar power plants

Data format

The first line of data: header (column names)

The second and subsequent lines: data Example

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DATE |  | TIME |  | S1 [MW] |  | S2 [MW] |
|
|
| 2016/1/1 |  | 0: | 00 | 0 | .0 | 0.0 |
|
|

Specification

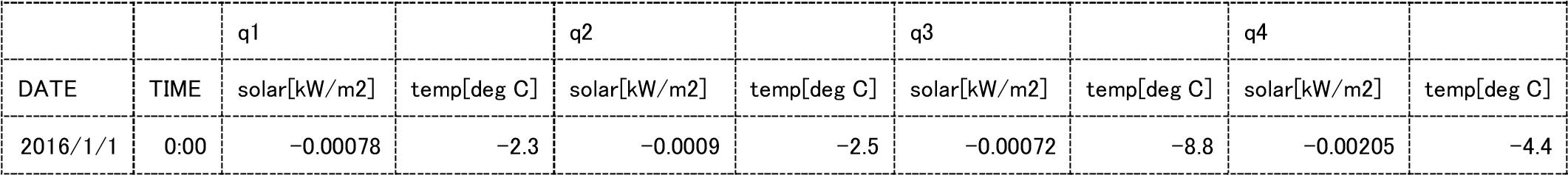
|  |  |
| --- | --- |
| Item | Description |
| Filename | LD1\_P201601~201712.csv |
| File format | CSV (Comma-Separated Value) |
| Measurement interval | 30minutes (Every hour 00 minutes, 30minutes) |
| Calculation | Actual power output from each plant is time-averaged every 30 minutes; the mean values are then aggregated as the total output for each area (S1, S2).  Time of calculation of the mean values:  (Time stamp) : (Time range)  Every hour 00 minutes︓0 min 00 sec ~ 29 min 59 sec  Every hour 30 minutes︓30 min 00 sec ~ 59 min 59 sec |
| DATE | YYYY/M/D (2016/1/1 ~ 2017/12/31) |
| TIME | h:mm (0:00 ~ 23:30) |
| S1[MW] | Total power output of area S1  Unit: MW  Positive/Negative: positive value only  Decimal point: 1st decimal place |
| S2[MW] | Total power output of area S2  Unit: MW  Positive/Negative: positive value only  Decimal point: 1st decimal place |
| Number of lines | 35,089（including the header line） All data are packed in a single file. |
| Notation for data loss | “NA” (excluding “”) |

1. Training Data 2 Temperature and global solar radiation values

Data format

First two lines of data: header (measurement location notations and column names) Third and subsequent lines: data

Example



Specification

|  |  |
| --- | --- |
| Item | Description |
| Filename | LD2\_QT201601~201712.csv |
| File format | CSV (Comma-Separated Value) |
| Measurement interval | 30minutes (Every hour 00 minutes, 30minutes) |
| Calculation | The sum of data calculated by averaging the temperature and global solar radiation every 30 minutes in each measurement location.    Time of calculation of the mean values:  (Time stamp): (Time range)  Every hour 00 minutes: 0 min 00 sec ~ 29 min 59 sec  Every hour 30 minutes: 30 min 00 sec ~ 59 min 59 sec |
| DATE | YYYY/M/D (2016/1/1〜2017/12/31) |
| TIME | h:mm (0:00〜23:30) |
| q1 ~ q4 solar  [kW/m2] | Global solar radiation at qn*th* location (n=1,2,3,4)  Unit: kW/m2  Positive/Negative: positive or negative value  Decimal point : 9th decimal place  The value may be negative due to measurement tolerance. |
| q1 ~ q4 temp  [deg C] | Temperature at qn*th* location (n=1,2,3,4)  Unit : Degree centigrade (Celsius)  Positive/Negative: positive or negative value  Decimal point: 1st decimal place |
| Number of lines | 35,090 (including the two header lines) All data are packed in a single file. |
| Notation for data loss | “NA” (excluding “”） |

■Locations

■︓Locations of Targeted Solar Power Plants

▲︓Measurement Locations of Temperature and Global Solar Radiation Values

