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Supplement of

Characterising optical array particle imaging probes: implications for small-ice-crystal observations

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| Zₜ | Bullets | Column-aggregates | Columns | Plates | Plate-aggregates | Quasi-spherical | Rosettes | Rosette-aggregates |
|----|---------|------------------|---------|--------|-----------------|-----------------|----------|-------------------|
| 1  | 1.2 (0.1) | 1.1 (0.1) | 1.2 (0.1) | 1.1 (0.1) | 1.2 (0.0) | 1.1 (0.1) | 1.2 (0.1) | 1.2 (0.0) |
| 2  | 1.2 (0.1) | 1.2 (0.1) | 1.2 (0.1) | 1.1 (0.1) | 1.2 (0.1) | 1.2 (0.1) | 1.2 (0.1) | 1.2 (0.0) |
| 3  | 1.2 (0.1) | 1.2 (0.1) | 1.2 (0.1) | 1.1 (0.1) | 1.2 (0.1) | 1.2 (0.1) | 1.3 (0.1) | 1.2 (0.1) |
| 4  | 1.1 (0.1) | 1.2 (0.1) | 1.1 (0.1) | 1.2 (0.2) | 1.3 (0.1) | 1.3 (0.1) | 1.3 (0.1) | 1.1 (0.1) |
| 5  | 1.0 (0.1) | 1.2 (0.2) | 1.1 (0.1) | 1.1 (0.3) | 1.3 (0.2) | 1.3 (0.1) | 1.2 (0.2) | 1.1 (0.1) |
| 6  | 1.0 (0.1) | 1.0 (0.2) | 1.0 (0.1) | 0.9 (0.4) | 1.1 (0.2) | 1.3 (0.1) | 1.0 (0.2) | 1.0 (0.2) |
| 7  | 0.9 (0.2) | 0.9 (0.2) | 0.9 (0.2) | 0.6 (0.5) | 0.9 (0.3) | 1.1 (0.3) | 0.7 (0.3) | 0.8 (0.2) |
| 8  | 0.7 (0.2) | 0.6 (0.3) | 0.7 (0.3) | 0.1 (0.3) | 0.5 (0.3) | 0.6 (0.4) | 0.2 (0.4) | 0.5 (0.3) |
| 9  | 0.4 (0.3) | 0.2 (0.3) | 0.4 (0.4) | 0.0 (0.0) | 0.0 (0.2) | 0.2 (0.3) | 0.0 (0.1) | 0.1 (0.3) |

Table S1. Median (inter-quartile range) D/D₀ at selected Zₜ for different habits using the circle equivalent diameter.
| Zd | Bullets | Column-aggregates | Columns | Plates | Plate-aggregates | Quasi-spherical | Rosettes | Rosette-aggregates |
|----|---------|-------------------|---------|--------|------------------|-----------------|----------|-------------------|
| 1  | 1.0 (0.1) | 1.0 (0.1) | 1.0 (0.2) | 1.1 (0.2) | 1.1 (0.1) | 1.2 (0.1) | 1.1 (0.1) | 1.0 (0.2) |
| 2  | 1.5 (0.2) | 1.3 (0.1) | 1.4 (0.2) | 1.1 (0.2) | 1.2 (0.1) | 1.3 (0.1) | 1.2 (0.1) | 1.3 (0.2) |
| 3  | 1.3 (1.9) | 1.6 (0.4) | 1.8 (1.3) | 1.4 (0.2) | 1.5 (0.2) | 1.5 (0.1) | 1.5 (0.2) | 1.6 (1.0) |

*Table S2. Same as Table S1 but using the mean X-Y diameter.*
|    | 0.0 (0.0) | 1.6 (2.0) | 0.0 (2.0) | 1.6 (1.6) | 1.8 (0.4) | 1.8 (0.1) | 1.3 (1.9) | 0.0 (1.8) |
|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 4  | 0.0 (0.0) | 0.0 (1.3) | 0.0 (0.3) | 1.1 (1.9) | 1.7 (2.2) | 2.0 (0.1) | 0.0 (1.0) | 0.0 (0.3) |
| 5  | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (1.3) | 2.1 (1.2) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) |
| 6  | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 1.0 (2.2) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) |
| 7  | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.7) | 0.0 (0.0) | 0.0 (0.0) |
| 8  | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) |
| 9  | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) | 0.0 (0.0) |

*Table S3. Same as Table S1 but using the maximum diameter.*