**S2 Table. Significant differences in pressure readings.** The significant differences between the peak overpressure, signal duration, and signal impulses between vertical measurements. Data were analyzed using a two-way ANOVA with Bonferroni’s multiple comparisons test. Significance was set to be 0.05.

|  |
| --- |
| **Peak Overpressure** |
| Incident Pressure |
|  | Low Strength | Moderate Strength | High Strength |
|  | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 |
| H1 vs. H2 | \*\*\*\* | \*\* | ns | ns | \*\*\*\* | \*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns |
| H1 vs. H3 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | \* | ns |
| H1 vs. H4 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns |
| H2 vs. H3 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns |
| H2 vs. H4 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns |
| H3 vs. H4 | \*\*\*\* | ns | ns | ns | \*\*\*\* | ns | ns | ns | \*\*\*\* | ns | ns | \* |
| Total Pressure |
|  | Low Strength | Moderate Strength | High Strength |
|  | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 |
| H1 vs. H2 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | \* | ns |
| H1 vs. H3 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | ns |
| H1 vs. H4 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns |
| H2 vs. H3 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns |
| H2 vs. H4 | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | \* | \*\*\*\* |
| H3 vs. H4 | \*\*\*\* | \* | ns | ns | \*\*\*\* | ns | ns | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\* |
| **Duration** |
| Incident Pressure |
|  | Low Strength | Moderate Strength | High Strength |
|  | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 |
| H1 vs. H2 | ns | ns | ns | ns | ns | \*\* | \* | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\* |
| H1 vs. H3 | \*\* | ns | ns | ns | ns | ns | ns | \*\*\*\* | \* | \*\*\*\* | ns | ns |
| H1 vs. H4 | ns | \* | ns | ns | ns | ns | ns | \*\*\*\* | \*\*\*\* | \*\* | ns | ns |
| H2 vs. H3 | \*\*\*\* | ns | ns | ns | ns | ns | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | ns |
| H2 vs. H4 | \*\*\* | \*\*\* | ns | \*\*\* | ns | ns | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\* |
| H3 vs. H4 | ns | ns | ns | ns | ns | ns | ns | \*\*\*\* | \*\*\* | ns | ns | ns |
| Total Pressure |
|  | Low Strength | Moderate Strength | High Strength |
|  | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 |
| H1 vs. H2 | ns | ns | ns | ns | ns | \*\*\*\* | ns | \*\*\*\* | ns | \*\*\* | ns | ns |
| H1 vs. H3 | \*\* | ns | \*\* | ns | \*\*\*\* | \*\*\*\* | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | ns | \*\*\* |
| H1 vs. H4 | \*\*\* | \*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | ns | \*\*\* |
| H2 vs. H3 | \* | ns | \*\* | ns | \*\*\*\* | ns | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | ns | ns |
| H2 vs. H4 | \*\* | \*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | ns | ns |
| H3 vs. H4 | ns | \*\* | ns | \*\*\*\* | ns | ns | ns | \*\*\* | ns | ns | ns | ns |
| **Impulse** |
| Incident Pressure |
|  | Low Strength | Moderate Strength | High Strength |
|  | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 |
| H1 vs. H2 | ns | ns | ns | ns | \*\*\*\* | \*\*\*\* | \*\* | \*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* |
| H1 vs. H3 | \*\*\* | ns | \* | \*\* | \*\*\*\* | ns | \* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\* | \* |
| H1 vs. H4 | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\* | ns | \*\*\* |
| H2 vs. H3 | ns | ns | \*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* |
| H2 vs. H4 | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* |
| H3 vs. H4 | \*\*\*\* | \*\*\*\* | \*\* | \*\* | \*\*\*\* | \* | \*\*\*\* | \*\* | \*\*\*\* | \* | ns | \*\*\*\* |
| Total Pressure |
|  | Low Strength | Moderate Strength | High Strength |
|  | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 | O1 | O2 | O3 | O4 |
| H1 vs. H2 | ns | ns | ns | ns | \*\*\* | \*\*\*\* | ns | \*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\* |
| H1 vs. H3 | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* |
| H1 vs. H4 | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* |
| H2 vs. H3 | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* |
| H2 vs. H4 | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* |
| H3 vs. H4 | \*\*\*\* | \*\*\*\* | \*\*\*\* | ns | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* | \*\*\*\* |