

Model Test Specification

| | |
|--------------------|----------------------|
| Hull | 5415 |
| Test type | Captive (PMM) |
| Water depth | Deep |
| Appendages | Appended |

TEST PROGRAM

Series 1: Pure drift

| Set | Σ | V_s [m/s] | n [min ⁻¹] | β [deg] | γ [-] | δ [deg] | $\beta \rightarrow$ | -10 | 0 | 2 | 4 | 6 | 10 | 12 | 16 | 20 |
|-----|----------|----------------|-----------------------------|------------------|-----------------|-------------------|---------------------|-----|---|---|---|---|----|----|----|----|
| 1 | 9 | 5.56 | 86.2 | \rightarrow | 0 | 0 | | x | x | x | x | x | x | x | x | x |
| 2 | 9 | 9.26 | 109.1 | \rightarrow | 0 | 0 | | x | x | x | x | x | x | x | x | x |

Series 2: Yaw oscillation

| Set | Σ | V_s [m/s] | n [min ⁻¹] | β [deg] | γ [-] | δ [deg] | $\gamma \rightarrow$ $\omega \rightarrow$ | -0.6 0.5 | -0.45 0.35 | -0.3 0.3 | -0.2 0.3 | -0.15 0.3 | -0.1 0.3 | -0.1 0.2 | -0.05 0.3 | 0.05 0.2 | 0.05 0.12 |
|-----|----------|----------------|-----------------------------|------------------|-----------------|-------------------|--|-------------|---------------|-------------|-------------|--------------|-------------|-------------|--------------|-------------|--------------|
| 1 | 5 | 5.56 | 86.2 | 0 | \rightarrow | 0 | | | | x | x | | | | | | |
| 2 | 21 | 9.26 | 109.1 | 0 | \rightarrow | 0 | | x | x | x | x | x | x | x | x | x | x |

| Sub / Set | $\gamma \rightarrow$ $\omega \rightarrow$ | 0.00 - | 0.05 0.12 | 0.05 0.2 | 0.05 0.3 | 0.1 0.2 | 0.1 0.3 | 0.15 0.3 | 0.2 0.3 | 0.3 0.3 | 0.45 0.35 | 0.6 0.5 |
|--------------|--|-----------|--------------|-------------|-------------|------------|------------|-------------|------------|------------|--------------|------------|
| 1 | | x | | | | | | | x | x | | |
| 2 | | x | x | x | x | x | x | x | x | x | x | x |

Series 3: Drift and yaw oscillation

| Set | Σ | V_s [m/s] | n [min ⁻¹] | β [deg] | γ [-] | δ [deg] | $\gamma \rightarrow$ $\omega \rightarrow$ | -0.3 0.3 | -0.2 0.3 | -0.1 0.3 | 0.00 - | 0.1 0.3 | 0.2 0.3 | 0.3 0.3 |
|-----|----------|----------------|-----------------------------|------------------|-----------------|-------------------|--|-------------|-------------|-------------|-----------|------------|------------|------------|
| 1 | 3 | 5.56 | 86.2 | 10 | \rightarrow | 0 | | x | | | x | | | x |
| 2 | 5 | 9.26 | 109.1 | 6 | \rightarrow | 0 | | x | x | | x | | x | x |
| 3 | 7 | 9.26 | 109.1 | 10 | \rightarrow | 0 | | x | x | x | x | x | x | x |

Series 4: Rudder

| Set | Σ | V_s [m/s] | n [min ⁻¹] | β [deg] | γ [-] | δ [deg] | $\delta \rightarrow$ | 0 | 4 | 8 | 10 | 15 | 20 | 25 | 30 | 40 |
|-----|----------|----------------|-----------------------------|------------------|-----------------|-------------------|----------------------|---|---|---|----|----|----|----|----|----|
| 1 | 2 | 5.56 | 86.2 | 0 | 0 | \rightarrow | | x | | | | | | x | | |
| 2 | 9 | 9.26 | 109.1 | 0 | 0 | \rightarrow | | x | x | x | x | x | x | x | x | x |

Series 5: Drift and Rudder

| Set | Σ | Vs [m/s] | n [min ⁻¹] | β [deg] | γ [-] | δ [deg] | δ → | 0 | 10 | 20 | 25 | 30 | 40 |
|-----|----------|-------------|---------------------------|------------------|-----------------|-------------------|---------------|---|----|----|----|----|----|
| 1 | 2 | 5.56 | 86.2 | 10 | 0 | → | | x | | | x | | |
| 2 | 6 | 9.26 | 109.1 | 10 | 0 | → | | x | x | x | x | x | x |

Series 6: Yaw oscillation and rudder

| Set | Σ | Vs [m/s] | n [min ⁻¹] | β [deg] | γ [-] | δ [deg] | γ → ω → | -0.3 0.3 | -0.2 0.3 | -0.1 0.3 | 0.00 - | 0.1 0.3 | 0.2 0.3 | 0.3 0.3 |
|-----|----------|-------------|---------------------------|------------------|-----------------|-------------------|--------------------------|-------------|-------------|-------------|-----------|------------|------------|------------|
| 1 | 7 | 9.26 | 109.1 | 0 | → | 10 | | x | x | x | x | x | x | x |
| 2 | 7 | 9.26 | 109.1 | 0 | → | 20 | | x | x | x | x | x | x | x |
| 3 | 7 | 9.26 | 109.1 | 0 | → | 25 | | x | x | x | x | x | x | x |
| 4 | 9 | 9.26 | 109.1 | 0 | → | 30 | | xx | x | x | x | x | x | xx |

Series 8: Astern and rudder

| Set | Σ | Vs [m/s] | n [min ⁻¹] | β [deg] | γ [-] | δ [deg] | n → | -146 | -109 | -73 | -36 | 0 | 36 | 73 | 109 | 146 |
|-----|----------|-------------|---------------------------|------------------|-----------------|-------------------|--------|------|------|-----|-----|---|----|----|-----|-----|
| 1 | 9 | -5.56 | → | 0 | 0 | 10 | | x | x | x | x | x | x | x | x | x |
| 2 | 7 | -9.26 | → | 0 | 0 | 10 | | x | x | x | x | x | x | x | | |