SMAR Azure Ltd

Bringing Innovation to the Marine Industry   Newsletter No. 2 - Feb 2014
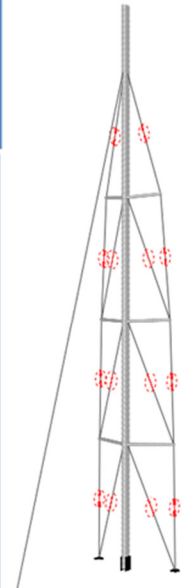
RigEdge, the rig design software: outlook on the new version and validation tests

Rig description		Tuning pretension	V1 75000 N pretension
			V2 45000 N pretension
			V3 30000 N pretension
			V4 15000 N pretension
3 swept back spreaders fractional rig			D1 10000 N precompression
			D2 10000 N precompression
spreaders are FREE TO ROTATE on the horizontal axis			D3 1000 N precompression

Parameter	midasNFX	RigEdge	difference
Mast head displacement	6.41	6.41	0.0%
Mast step compression	59100	59086	0.0%
Mast step shear	1110	1111	0.1%
Maximum compression	59104	59090	0.0%
Maximum shear	1687	1688	0.1%
Max bending moment	4664	4671	0.2%
SP 1 compression	1990	1989	-0.1%
SP 2 compression	1562	1560	-0.1%
SP 3 compression	3217	3219	0.1%
V1 tension	23929	23932	0.0%
V2 tension	19361	19365	0.0%
V3 tension	16573	16583	0.1%
V4 tension	16882	16889	0.0%
D1 tension	2921	2911	-0.3%
D2 tension	4864	4859	-0.1%
D3 tension	2932	2924	-0.3%
Forestay	6140	6139	0.0%

Structural analysis results obtained with RigEdge and midasNFX of a 3-spreader rig under tuning loads. The maximum recorded difference is less than 0.3%!

Two new important features will be soon released:

1. **Spreader free to rotate**: users can either decide to keep spreaders constrained to the mast pole or not. As for every analytical development, the new feature has been validated against commercially available software (i.e. midasNFX.com). Results are shown on the left.

2. **Load cases**: users can build the test cases and RigEdge will run them automatically. This feature dramatically improves the speed of rig design validation.

AzureProject: NEW VIDEO on Luff – Rig interaction

On the SMAR Azure YouTube channel, a new video showing how the AzureProject Advanced Analysis tool calculates luff sag for a given forestay sag and mast bend influence on the mainsail-shape.

http://youtu.be/88XQ-zfSKT4

12-months license options

Beside the traditional PERPETUAL LICENSE option, it is now possible to RENT **AzureProject** and/or **RigEdge** annually (12 months).

The ANNUAL license fee includes Maintenance & Support services, which means bug fixing, free software updates and dedicated technical support via Skype/email/phone & e-ticket system.

The ANNUAL License option offers important advantages: not only are the Maintenance and Support services included, but moreover, if the annual rent is renewed for 2 consecutive years, the license will become perpetual!!

PATRICE
Sailplan Optimization

Patrice (Ker46)
Courtesy T. Kirby
"We are excited to have had the opportunity to collaborate with SMAR Azure to provide our client with leading edge performance sails and look forward to seeing the results on the race course."
Ian Broad
Hood Sails SYD

The goal was to optimize the sail plan for a new Ker46 that was in production. Using the SMAR Azure sail design and performance analysis tools, the SMAR Azure team optimised sail shapes and the fiber layouts in the given range of wind conditions.
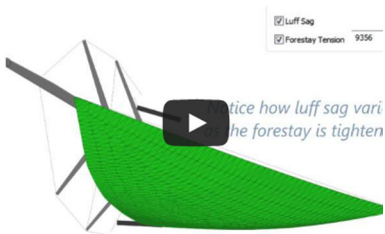
Main Benefits:

Light fiber layout able to hold the fastest shapes

Compared with the initial proposed fiber layout, the manufactured sails are lighter and more versatile.

No prototyping cost

The testing of hundreds of "virtual" prototypes leads straight to a result that could not be achieved in decades of physical development. The final sail shapes and fiber layout are the result of a fully analytical and engineered process.