

# Manlab : Updates of the version 4.1.3

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## 1 Bugs fixed

- When the stability computation does not converge, the continuation is no longer stopped but a line is written in the command window saying that the stability may be incorrect.
- The quasi-periodic orbits of forced systems are continued with  $\omega_1$  as the forcing pulsation everywhere in the code.

## 2 Additional possibilities

- A new class `@SystODE` treats the case of Equilibrium, periodic solutions and quasi-periodic solutions of Ordinary Differential Equations. The number of harmonics  $H$  is respectively 0 to continue Equilibrium,  $H \in \mathbb{N}^*$  to continue Periodic solutions and  $\mathbf{H} = (H, H) \in \mathbb{N}^* \times \mathbb{N}^*$  for Quasi-periodic solutions.
- It is now possible to have transcendental main equations  $dR$ , all the `'equations.m'` files should now be written as `[Rtot, dRtot] = equations(sys, Utot, dUtot)` for `@SystAQ` class.
- A new file called `Display` has been added in the SRC repertory, it contains a lot of useful functions to display the solutions obtained by HBM when working with `@SystODE` and `@SystHBQ` classes. The examples have been updated to show some examples.
- Two "Empty example" have been added to `@SystAQ` class and `@SystHBQ` class. They have been written in order to clarify the way to write your own system in **Manlab**. You can copy and paste the file to start implementing your own system.