## COMPANY INFORMATION

| | |
|---|---|
| Company name | **REHEYA LLC** (UNN Computational Mathematics and Cybernetics Faculty) |
| Project name | Active/passive broadband dynamical vibration absorber with piezoelectric transducer. |
| Project leader |  Fedotov Igor, director.<br>Balandin Dmitry, research supervisor. |
| Contacts | Email: optimal.control@gmail.com<br>dbalandin@yandex.ru<br>Phone: +79108910930 |
| Company/project history | Set up in 2012, from the UNN Computational Mathematics and Cybernetics Faculty for research and development work in vibration protect problem. First work was: research piezoelectric material for active and passive vibration absorbers. |

## PROJECT INFORMATION

### Description of technology/product

**Control systems and construction solution from piezoelectric stack actuator/piezoelectric ceramics for force generation (resonance destruction, vibration absorbers). Management system creation by oscillations of constructions and the mechanisms, different compactness of execution at the high power density. Development of technology of use of piezoelectric ceramics with active/passive management system, technology of a self-sensing actuators.**

### Diagrams and photos

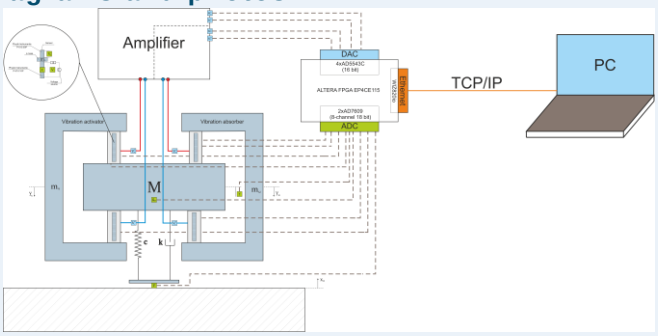


Fig. 1 Prototype scheme

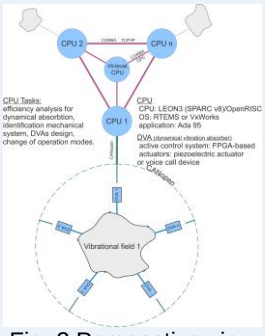


Fig. 2 Perspective view

### Added value

Vibration absorption of responsible nodes, control of oscillations of constructions, controlled corrupting of constructions.

### Current status of technology/product

The laboratory prototype is created.

### Key advantages

Possibility of optimum operation in broadband range of frequencies. Non inertial operation in case of generation of forces from newton shares to 10K of newtons. Uniform creation of passive and active systems. Compactness of execution.

### Competitors

- Proof mass damper - CEDRAT TECHNOLOGIES;
- Vibration absorber vendors of electromagnetic interaction, electrostrictive, pneumatic and hydraulic systems.

### Potential markets

- The active suspension bracket of cars;
- Stabilizing of tracking systems;
- Vibroprotection of engines and turbines;
- Vibration control of aircraft;
- Vibroprotection of optical system;
- The active vibration control of buildings and construction.

### Scientific publications and patents

Four scientific articles on the topic published, computer program registered.

### US contacts sought

- Investors;
- Scientific and research centers;
- Hardware manufactures.

### Objectives for the trip to the US

- Present the company and showcase its innovative product to international audiences;
- Look into potential markets;
- Find customers/partners/investors.