

The effects of low frequency electromagnetic fields on the flow characteristic and coagulation tendency of blood without and with the use of a motor-vehicle-transformer from memon®-Umwelttechnologie GmbH

Pilot study at the University of Applied Sciences Landshut, Faculty of Mech. Eng., realized on 30-10-2009

Attendants:

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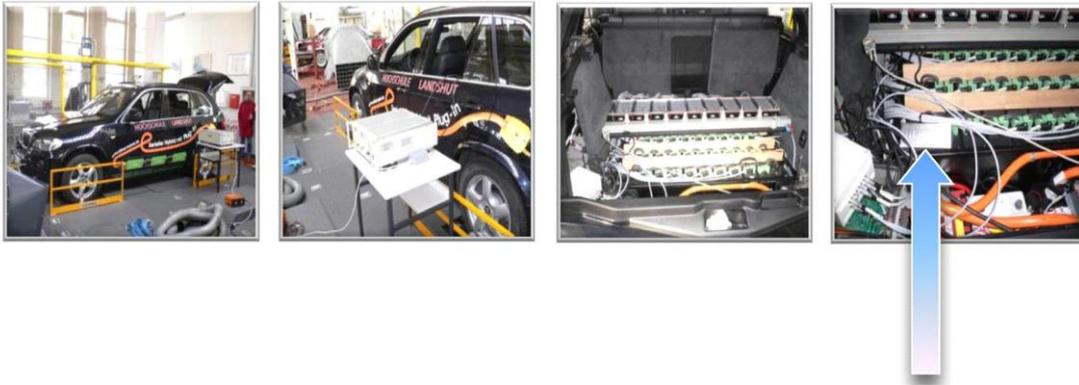
The goal of the test was to analyze the effects of low frequency electromagnetic fields in an operating hybrid vehicle on the flow characteristic of blood with regard to the adhesion of the erythrocytes together and the coagulation tendency of four test subjects with and without the use of a motor-vehicle-transformer from memon® Umwelttechnologie GmbH.

Prof. Dr. Günther Enderlein's dark field microscopy was used as the test method, carried out on location by Ekkehart Scheller.

The test vehicle on the roller bed was a BMW X5, equipped with a hybrid engine, in Hochschule Landshut under the guidance of Prof. Dr.-Ing. Franz Prexler.

Experiment Design - Hybrid Vehicle with a memon®

Versuchsaufbau Hybrid-PKW mit memon® Transformer



Both before driving and after 15 minutes (for the driver) or 20 minutes (for the passengers) driving on the roller bed, (once with and once without the motor-vehicle-transformer from memon® Umwelttechnologie GmbH installed in the test vehicle's electrical system) a drop of blood is taken from the finger of each of the subjects and analyzed using dark field microscopy.

All of the subjects sat in the same location in the car for both test runs: subject 1 as driver, subject 4 as front passenger, subject 3 behind the driver, subject 2 behind the front passenger.



The included images show representative samples of the dark field blood from each of the subjects before the test drive, at the end of the first drive without the memon[®] motor-vehicle-transformer and at the end of the second drive with the memon[®] motor-vehicle transformer installed.

When comparing the images side by side, a clear tendency toward so-call “rouleaux formation” of the erythrocytes as well as the increased presence of fibrin strands can be noticed in general. The erythrocytes adhered to one another more strongly and the coagulation increased, which leads to poorer flow characteristics. The transportation of oxygen in the capillaries must reduce as a result.

The clumping of the erythrocytes in the blood of subject 4, who also used a laptop, can be seen particularly clearly. This could be an expression of the additional electromagnetic stress.

The massive increase in fibrin strands can be observed particularly in subjects 1, 2 and 3.

The blood of subject 3 shows the most balanced image before the drive, which possibly explains why this subject exhibited the least adhesion of the erythrocytes after the stress, compared to the others. In any event, the massive increase in fibrin strands is evident.

The images of the blood after the installation of the motor-vehicle transformer and a second drive show a consistent tendency toward normalization, an almost complete lack of fibrin strands and free-flowing erythrocytes. It is striking that the overall image for subjects 2 and 4 is now better than it was before the first drive. This would be equivalent to a “therapeutic effect.” You can see a brightening of the red blood cells in all of the images. This corresponds

to an increased oxygen content, which was only rudimentarily observed in subject 3 before the test drives.

In summary, one could state that the dark field microscopy testing of the blood from the four subjects, who were exposed to increased electromagnetic stress (electro-stress) by driving in a motor vehicle with a hybrid engine, showed clear signs of a tendency toward the adhesion of erythrocytes (“rouleaux formation”) as well as an increased development of fibrin strands. This leads to the conclusion that both the viscosity and the tendency of coagulation has increased. As a result the transportation of oxygen to the capillaries must decrease and the risk of peripheral thrombophilia increase.

After driving in the same vehicle, this time equipped with a transformer from memon[®] Umwelttechnologie GmbH, another blood test showed a clear tendency toward normalization, with free-flowing erythrocytes and almost no fibrin strands in all four test subjects. Furthermore, signs of an increased oxygen load can be seen in the erythrocytes now. For at least two of the subjects, the overall image of the blood is now better than before the test drive.

As a pilot study, the test shows that the incorporation of a motor-vehicle-transformer from memon[®] in the electrical system of the hybrid vehicle can partially counteract the damaging effects to your health caused by so-called “electrosmog.” Comprehensive studies with a detailed design and reproducible results must prove this postulate.