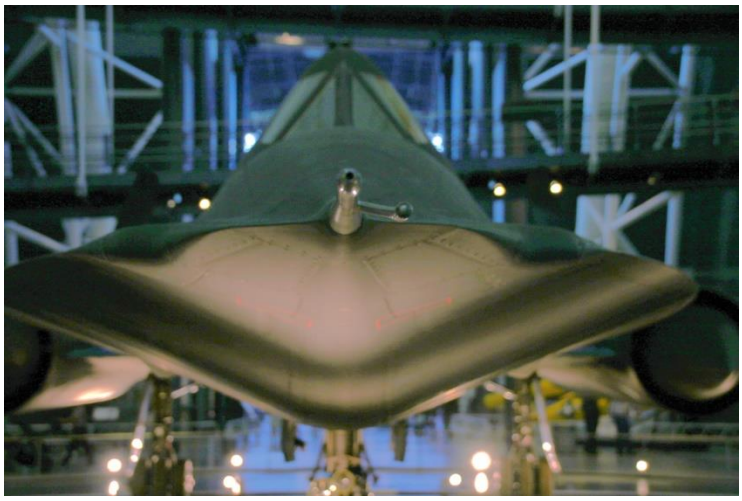

CEC Newsletter Winter 2024

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Editorial
Text by Giorgio Prevati, Miguel Mascaray, Jose-Maria Gutierrez-Zuazua, Uwe Kueper, and Dirk Petersen
Images by Dirk Petersen and internet

This newsletter is distributed to the current membership of the SAWE Central European Chapter.
Feel free to distribute to interested parties.

For comments and contribution contact:
cec.chapter@sawe.org.

Membership Meeting Sept. 2023

The SAWE Central European Chapter held its second Membership Meeting of the year on 28.09.2023.

The meeting was attended by fifteen participants from all over Europe, covering a mix of industries, companies and the University of Milano.

The topics of the meeting were feedback from the International Conference, the advancement of the working groups and a summary of the member survey. Detailed results from the survey will be discussed at our next membership meeting, envisaged in March or April 2024.

The CEC Executive Committee expressed its wish to apply for the SAWE International in 2026 or 2027. In December 2023 the SAWE Board of Directors selected Los Angeles as the venue for the conference in 2026, which provides us with more time to prepare our proposal.

Working Groups

WG1 Corporations

With the purpose of making our Society known and extending it to new potentially collaborating Companies, this Working Group has sent a letter of introduction to several Industries and Corporations located in Europe, inviting them to participate in the SAWE-CEC activities.

We have visited one of these companies, ALESTIS, in Madrid, Spain, to make a presentation on "Mass activities during Product Life Cycle", with plans to do the same in other Corporations.

In line with the objectives of our strategy, Josemaria Gutierrez and Miguel Mascaray recently visited the engineering company ALESTIS based in Seville and Madrid. ALESTIS is involved as tier 1 in the design, manufacture and assembly of some Airbus aircraft components.

The aim was to explain our organization, SAWE, and present to them the main activities of a mass properties engineer during the aircraft development phases.

The presentation was given to the ALESTIS design team and with the presence of the Head of Engineering.

Jose Maria and Miguel, having spent their professional careers in the development of military and passenger aircraft respectively, presented in a pleasant way the differences between one and the other type of aircraft from the point of view of the control of mass properties.

During the presentation of the subject, the activities and capabilities of our European Chapter in supporting companies and their professionals were mentioned several times.

Thanks to ALESTIS staff for inviting us to their facilities.

WG3 Universities

The group has progressed since the last newsletter. We have contacted other universities and have new focal points at some Universities (from the last LTH/SAWE meeting), who will be contacted.

The survey sent to our members resulted in a list of people interested in joining the group. The WG3 Coordinator will convene a session with all of them in the first weeks of January-2024.

WG4 Knowledge Sharing

A first request for development of a new training was received. Presently the working group is looking for a partnership with a company to advance this topic.

The SAWE has launched a new series of online training. A Mass Properties expert will present important topics of our profession in short

videos. The first session is available for free and covers "Intro to Mass Properties Engineering".

We are looking forward to the next sessions.

Support Needed!

Influence the future of our profession and be part of our working groups. Working groups and their interim coordinators are:

- WG1: Corporations: Ruben Gonzalez-Gonzalez & Jose-Maria Gutierrez-Zuazua
- WG2: Technical Involvement: NN
- WG3: Universities: Miguel Mascaray
- WG4: Knowledge Transfer: Dirk Petersen

We Need Your Support ...

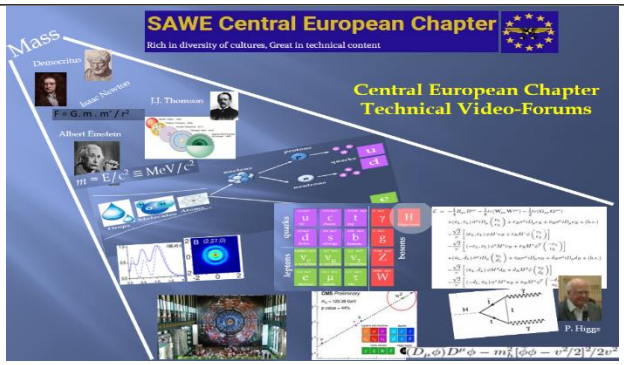
Please contact us.

Subpages for each working group are or will be available.

Forum

Our first virtual technical forum took place on 30 Nov 2023. The topic chosen for this first edition was the concept of mass and how the theories surrounding it have evolved up to the present day.

Today there seems to be unanimity among physicists on the nature and origin of the mass of the elementary particles that constitute all the matter in the universe. Ali and Miguel constructed a presentation with the intention of giving a simple and pleasant explanation of the origin of the mass of the particles and without (intentionally) falling into the use of analogies that from our point of view distort the technical aspect of our subject.



The session was attended by 35 people, mostly members of our Chapter, but also SAWE members from all over the world, as well as former colleagues of our profession. For those interested on having the presentation, you can download in our Chapter web page.

LTH148

The LTH (Luftfahrttechnisches Handbuch - Aeronautical Engineering Handbook), Working Group "Mass Analysis", performed its 148th meeting on 21st and 22nd of November at the site of Airbus Defense and Space GmbH in Manching, Bavaria. Chaired by Werner Sellner and hosted by the Mass Properties group of Airbus Defense participation consisted of manufacturers, engineering companies, universities and governmental entities. The agenda included several informative presentations, the advance of the working groups and a tour through the site. Some of the presentations are candidates for future papers at SAWE conferences. The host committee receives special thanks for their excellent hospitality.

Who is Who?

In this space members of the SAWE Central European Chapter will have the opportunity to present themselves.

Volunteers are welcome to write a short article about their life inside and outside of Mass Properties.

Who is Uwe?

Uwe Kueper

I started my mass properties career in 1978 in the mass properties department at MBB. After a few renamings (DASA, EADS, CASSIDIAN) and reorganizations the department is now based in Airbus Defense and Space.

The Eurofighter program accompanied me as the most important project throughout my professional life. After working as a mass properties engineer and then as an expert, I became head of the mass properties department in 2006. After the merger of CASA and Airbus in 2015 I was responsible for the mass properties affairs in the military sector in both countries before retirement in September 2017.

I have been a member of SAWE for more than 40 years, acted as conference chairman of the 71st International Conference in Bad Goegging/Germany and became fellow of the society in 2012. Participation in approximately 20 international and national conferences. Presently I am Vice President of the SAWE Central European Chapter.

Furthermore, I was a member of the LTH throughout his entire professional life.

My wife has been extremely supportive of me throughout my professional life. Due to the fact that we live in Bavaria near the alps and as a balance to professional life mountain hiking and cycling are our favorite sports. And to make my life and my family perfect I have two children and four grandchildren.

Who is Ruben?

I started my professional career in Airbus Commercial Aircrafts Mass Properties in 2001, after graduating as an Aerospace Engineer. I was involved in the development of the A380 and in multiple future aircrafts research projects including the development of analytical weight estimation tools and working in transnational teams learning from the most experienced Mass Properties senior engineers.

Ruben Gonzalez-Gonzalez

In 2011 I was nominated to lead the A350 development Mass Properties team and during 11 years I enjoyed, not only being part of the most efficient aircraft development, but also learning from all the people and disciplines I met, building a great Mass Properties team and improving the processes that definitely contributed to the program success. During that time, I married my lovely wife and our son was born, I got my Master of Engineering degree in Industrial Engineering Management and I started my PhD in Aerospace Engineering about Space Launchers. In 2022 I moved to the A320 Family Program as Mass Properties Manager where we are implementing the lessons from the A350 and supporting the development of the next generation of Mass Properties Engineers.

I have been a member of SAWE for 20 years, participating in 9 International Conferences, being part of the Host Committee in 2007 and writing 2 technical papers. I was awarded with the Ed Payne in 2008, becoming Fellow member in 2013, elected International Senior Vice President from 2017 to 2019 and President of the Central European Chapter in 2022.

My wife and my son are my vital support. We love traveling, meeting people from different countries and cultures, skiing and, when I have some time, I enjoy playing historical fencing, watching and learning about the Space.

Paper 3792 "Road Accident Re-construction"

Attendees of the 82nd International Conference had the pleasure to listen to Giorgio Previati presenting his paper.

Abstract:
The reconstruction of car accidents is a critical step in understanding the causes of an accident and, in case, for attributing responsibilities. Therefore, the reconstruction must be realized by considering all of the possible sources of error and misrepresentation. Since such activity relies on dynamic models of the colliding vehicles, mass properties (mass, centre of gravity location, inertia tensor) play a crucial role.

The present paper aims to quantify the requirements in the knowledge of the inertia properties for a proper reconstruction of car accidents. The analysis is performed with reference to the case of two colliding vehicles. After a detailed description of the model employed for the reconstruction, dynamic simulation is utilized to assess the required accuracy, with particular reference to the effects of the uncertainty in mass, longitudinal location of the centre of gravity and yaw moment of inertia. It turns out that even relatively small errors in the definition of such parameters can lead to large errors in the reconstruction of the state of the colliding vehicles before the accident. Also, the variation in the inertia properties of the vehicles due to the crash is investigated. Engineers involved in car accident reconstruction should be aware of the importance of correctly estimate the inertia properties of vehicle, both before and after the accident, to obtain a correct estimation of the actual dynamic of the accident.

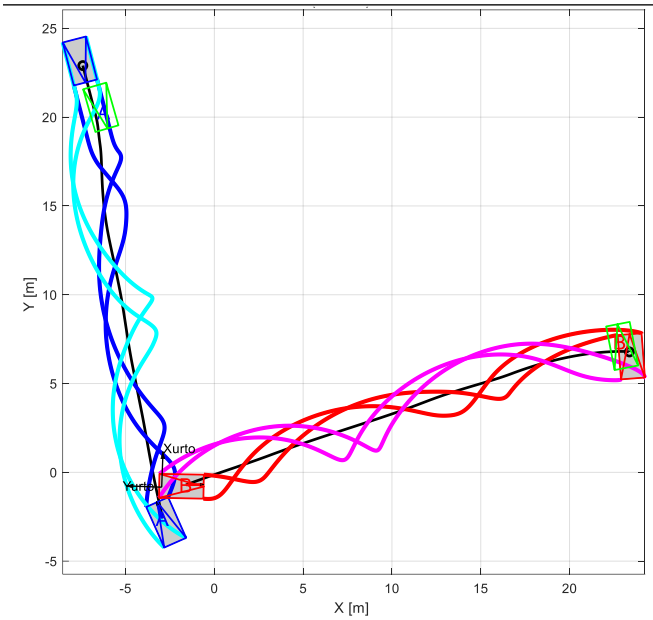


Figure 6 – JARI5 solutions mass +20%.

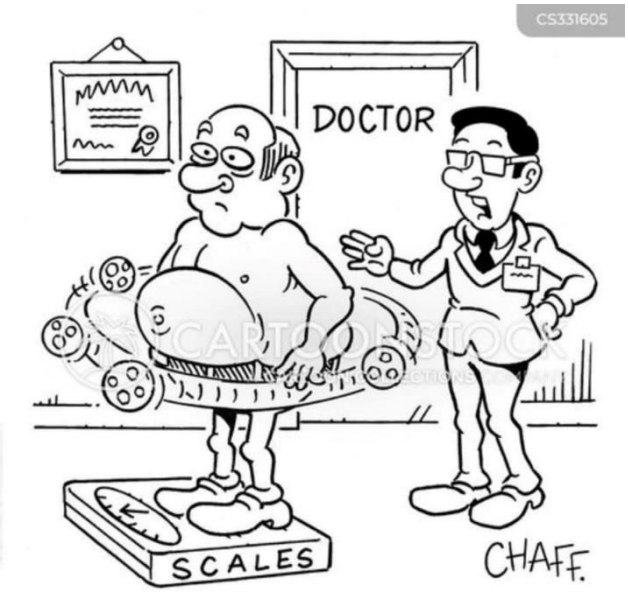
The paper is available in the SAWE shop. You may use one of your yearly 10 free products downloads.
Let's hope we never need such a reconstruction.

What's next?

- SAWE Virtual Forum #12: Wanted – Parametric Data - Jan 12, 2024
- CEC Membership Meeting – March/April 2024
- 83rd SAWE International Conference on Mass Properties Engineering - May 20, 2024 to May 22, 2024
- 2024 Virtual Training - Jun 1, 2024
- CEC Newsletter Summer 2024 – June/July 2024
- CEC Membership Meeting – September/October 2024

Monitor our website for updated information on future events.

Seriously?



"Lose weight and they should drop out of orbit!"

We are looking for more comics, jokes and stories for the next versions of the newsletter. Do not hesitate to send them to "contact us".