

# [Existential Risk / Opportunity] Singularity Management

November 2015 Special Edition

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## Why We are Publishing a Special Edition

by James Blodgett

**[Existential Risk/Opportunity] Singularity Management** is a quarterly publication. We just published our October issue. Our next issue is due in January. So why are we publishing a special edition less than two weeks after the preceding one? The answer is our focus, which is existential risk, a matter of some importance. When the fire bell rings, the firefighters go, despite the fact that they are polishing their truck for the big parade.

In this case, two fire bells rang. The first was the fact that, in response to our October issue which mentioned CERN in two articles, Dr. Otto Rössler submitted a short article promoting new science that would invalidate CERN's major safety consideration. An arbitrary publication schedule should not keep us from publishing, and putting out on the Internet, an article of that potential importance for another three months while CERN continues experiments that might pose an existential risk. The second fire bell was the posting by Dr. Thomas Kerwick of a link to a news article about a proposed new collider that raises new safety concerns because its proposed power level is seven times that of CERN's Large Hadron Collider (LHC). Dr. Kerwick agreed to co-author an editorial about those new safety concerns. Such concerns should be raised in a timely fashion before the new plans generate more of both group and personal vested interests.

Dr. Rössler is an important scientist and theorist. Google him. The Rössler attractor of chaos theory is named after him. On the other hand, the short article he submitted to us is not what some newspapers would consider a scoop. He has been

putting his career on the line and courting controversy by playing the Chicken Little role, saying that the sky is going to fall because of CERN, for years. Also, the fact that he has a speculative theory that would invalidate a CERN safety consideration does not mean that his theory is true. Also, speculative theories that would invalidate some of CERN's safety considerations are not new: Dr. Plaga, Dr. Rössler, Dr. Kerwick, and others have all suggested such theories. However, in the Disney version, Chicken Little was right, and a hero. These scientists might be right too. The fact that serious scientists find it easy to theorize around CERN's safety considerations does not prove that the theories underlying CERN's considerations are wrong, but it does make CERN's considerations a matter of probability, not of certainty, and therefore the certainty that CERN attributes to them is wrong. We should help Dr. Rössler with his quest, not sit on his contribution for months because of an arbitrary publication schedule.

In order to be fair to CERN, we have sent a copy of Dr. Rössler's piece to CERN's LHC Safety Assessment Group (LSAG) and asked for a response. That group does occasionally respond to queries. We have not received a response, but we did not give them lots of time to respond. We will send them this issue of EROSM too, and we will publish their response in our next issue if they provide a response that we feel is publishable, or we will at least provide a summary.

## **A New Risk Attribution**

by Otto Rössler

There is a new fundamental science since four years' time called cryodynamics,<sup>1</sup> sister discipline to thermodynamics.

This new science implies that low-in-kinetic-energy particles like photons are being preyed-upon energetically by high-in-kinetic-energy particles like randomly moving galaxies. Zwicky's so-called tired-light theory is thereby revived in a corrected form. At the same time, continuously controllable hot-plasma fusion comes within technological reach. No one contradicts this "principle of energetic capitalism" as it was called by late mathematician Klaus Sonnleitner in his founding dissertation of 2010, written in German, which has a short title of StV4.<sup>2</sup>

The best safety argument of CERN's (which is so good that it explains why CERN could afford to non-renew its by seven years outdated latest safety report of 2008) says that the natural ultra-fast analogs to the artificial ultra-slow miniature black holes hoped to be produced on Earth are, although being predictably innocuous to planets and stars owing to their ultra-high speed and smallness, bound to get stuck inside white dwarf stars

<sup>1</sup> Otto E. Rössler, Rolling Ball in Breathing Plane-Tree Alley Paradigm, European Scientific Journal, Sept 2013, Vol 9 No 27. <http://eujournal.org/index.php/esj/article/view/1803/1793>

<sup>2</sup> Klaus Sonnleitner, StV4: A Symmetric Time-Reversible Störmer-Verlet Algorithm of the Fourth Order for Hamiltonian Multi-Particle-Systems, Ph. D. Dissertation 2010. <http://www.wissensnavigator.com/documents/StV4-universell.pdf>

with their almost a million times larger density, to eat them inside out. The empirical survival of the latter stars thus guarantees that any successfully produced ultra-slow micro black holes down on Earth must be innocuous, too.

The United Nations along with every other responsible regulating board on Earth have accepted this argument along with the scientific community at large ever since 2008.

Unfortunately, this argument is false. Cryodynamics implies that, inside a crystalline body of gravitating particles (approximated by a white dwarf star) fast-passing heavier particles like micro black holes when sufficiently small will not be braked but rather get accelerated and hence leave them unscathed. Thus, CERN's best safety argument is gone.

This result ("Sonnleitner acceleration") is a difficult result. The number of specialists working in cryodynamics is still minute despite its overwhelming technological promise. But as long as this result stays non-disproved (which at the time being looks like lasting forever), basing the safety of Planet Earth on its falsity is irrational.

Since the consequences of this irrationality are the most far-reaching ones of history, the advice given by the Cologne Administrative Court to CERN in February of 2011 – to please conduct a safety meeting – can only be underscored. The LHC has to lie dormant until this meeting has taken place.

Signed: Prof. Dr. Dr. h.c. mult. Otto E. Rössler, University of Tübingen, Germany, Austrian citizen

## **Reflecting on China's Ambition to Build the World's Most Powerful Supercollider by 2020**

by Thomas B. Kerwick and James Blodgett

When reading about the recent announcement that China will begin building the largest particle collider in the world by 2020, seven times as powerful as the LHC operating at CERN<sup>1</sup>, it is difficult not to get a sense of déjà vu. Physicists predictably want new colliders so they can discover new physics. A new collider, more powerful than its predecessors, has been constructed every few years. However, it seems surprising that safety issues are apparently not being considered this time, since safety considerations were relevant for the last two colliders, and the existing safety considerations were limited in analysis to the energy levels achievable in those colliders. Each more powerful collider explores an energy range for which safety has not yet been demonstrated. Even

<sup>1</sup> China To Build World's Most Powerful Super-Collider In 2020. IFLScience. Oct 30, 2015.  
<http://www.iflscience.com/physics/china-plans-build-next-super-collider>

the recently upgraded Large Hadron Collider (LHC) at CERN is just beginning to test the limits of its power. Whilst the vast majority of the scientific community today consider the LHC exceptionally safe, very specific counter-arguments to its safety occasionally arise, alongside concerns I (Kerwick) have raised, and those presented by Prof. Rössler in this issue. Many of such concerns may be more applicable to higher energy levels associated with the newly planned supercollider, for which a safety analysis has yet to be performed.

The LHC may be safer than some risks assumed by individuals, but a higher standard is required when the entire human species and the sustainability of our planet is the subject of risk. Ideally a safety review should be impartial to influence, though it is naturally influenced by considerations of economics and the weight of expectation, in particular when the safety debate is post-construction. If one takes the specific concern of TeV-scale black holes, the theory that Hawking radiation would result in their evaporation is still both experimentally unverified, and challenged. We can applaud the astrophysical reassurances developed for CERN's 2008 safety review, but they have become weakened in hindsight. The assurance of white dwarf longevity only stands for micro black hole models of a lower order of dimensionality ( $D < 8$ ) than those presented, and at no greater than 14 TeV,<sup>2</sup> perhaps adequate for the LHC, but the proposed new collider will be seven times more powerful, whilst the assurances based on neutron star longevity have their own complications. For example, we have observational evidence suggesting that consuming micro black holes might be created from comparable astrophysical processes, in the peculiar absence of sub-millisecond pulsars, as I (Kerwick) expressed in a recent paper,<sup>3</sup> though to date only radio pulsar J0737-3039B has ever disappeared from view (and for apparent unrelated reasons).

It is imperative that the scientific community on this occasion adheres to a diligent analysis of risk before there is significant financial investment in these latest ambitions from China.

<sup>2</sup> Astrophysical Implications of hypothetical stable TeV-scale black holes. Giddings and Mangano, 2008. <http://arxiv.org/abs/0806.3381>

<sup>3</sup> Neutron Star Safety Assurance Concerns to Particle Collider Operation of TeV-Scale p-p Collisions. Thomas B. Kerwick, 2014. <http://vixra.org/pdf/1406.0077v4.pdf>

## Errata

by James Blodgett

My recent article in the October issue of this publication titled " Struggling with the Ethical Limits of Expected Value Utilitarianism as Applied to Positive and Negative Singularities" had a typo. John Lewis's estimate for the number of humans who could be supported with asteroid belt resources was 10,000,000,000,000,000 (10,000 trillion. ) The article at <http://www.global-risk-sig.org/erosmATF.pdf> has been corrected.