

# A few remarks...

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**International Conference on  
Particle Physics and Cosmology  
  
(Rubakov Conference 2023)**

- First time I met **Valery Anatolyevich Rubakov** in Autumn 2000. My second PhD adviser (**Karen Avetovich Ter-Martirosyan**) recommended me to give a seminar in the **Institute for Nuclear Research (INR) of the Russian Academy of Sciences**. During this seminar and after it I had a very enlightening and instructive discussions with Valery Anatolyevich and young members of his group (**Dmitry Gorbunov, Sergei Troitskii, Maxim Libanov, etc**).
- After the successful defence of my PhD thesis I was working in Germany, UK, USA and Australia for almost fourteen years. Every time I was returning back to Russia I was trying to come to **INR** and discuss my results with **Valery Anatolyevich** and his group. So I had many fruitful and helpful discussions with him and other members of **INR Theory Division**.
- Once in 2009 **Valery Anatolyevich** invited me to give a course of lectures on "**Phenomenological aspects of Supersymmetry (SUSY)**" at the Dynasty Foundation Summer School (**Protvino, Moscow region, Russia, 10-20 August, 2009**). This was just before I moved from Glasgow University to Hawaii University. I agreed and gave several lectures on SUSY.

- **Valery Anatolyevich Rubakov** was also lecturing at this Summer School. He presented a fantastic course of lectures on "Alternative theories to SUSY". In particular, he discussed **Technicolor**, **composite Higgs models** as well as **theories with extra spatial dimensions**.
- His wonderful course stimulated my own investigations of Grand Unified Theories (GUTs) with extra spatial dimensions, i.e. **orbifold GUTs**, during my stay in Honolulu. Moreover since my arrival to Adelaide (South Australia) in **2013** I started working on **composite Higgs models** that can originate from  **$E_6$  orbifold GUTs**.
- My decision to move back from Adelaide to Moscow in **2017** was strongly motivated by the presence of large particle theory community in Russia that involves scientists like **Valery Anatolyevich Rubakov**.
- In **2019** I defended my habilitation thesis in **INR**. **Valery Anatolyevich** was chairing this meeting (in very alive manner).
- The talk, that I am going to present at this Conference, is based on the article that appeared as a result of the discussions which took place during the defence of my habilitation thesis.

- In the course of the preparation of my habilitation thesis I realised that many members of the particle physics community believe that low energy SUSY has been basically ruled out by the LHC experiments. Because of this in 2020 I applied for RFBR grant that permitted me to prepare a review article on "Phenomenological aspects of supersymmetric extensions of the Standard Model" for Physics-Uspekhi (UFN). Valery Anatolyevich, who was Editor-in-Chief of this journal, supported my intension.
- My review paper was accepted in July 2022. It was published in July 2023.
- Valery Anatolyevich Rubakov has been one of the inspirational leaders of scientific community in Russia for several decades. He was a prominent figure in theoretical physics, a brilliant organizer and a great human being.

**Many Thanks,  
Valery Anatolyevich!!**