

1 Brief summary of Master's thesis

I'm Alessandro Vignati and I ended my Master degree in December. Now I'm studying about guessing principles and introduction of pcf theory and I've applied for a PhD position.

In the first chapter of my Master's thesis there is an introduction to stationary sets with some properties and examples.

In the second chapter, first I introduced the Diamond principle explaining some of its properties, and secondly I showed one proof of the Shelah's theorem and how the Diamond principle is related to others combinatorial results. In the third part of this chapter I analyzed how the Diamond principle is related to the property of being a measurable cardinal.

In the next chapter I look for some forcing to find some models for $\diamond_{\kappa+}$ or for $\neg\diamond_{\kappa+}$.

In the last part of my thesis I used some combinatorial principle like club guessing to study the proof of Shelah and Gitik's Theorem on Ideals saturation. To arrive to this result I've also studied the ultrapowers construction and some properties of Boole algebras.