

# DEGREE SPECTRA OF STRUCTURES

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In [1] we introduced the following generalization of the notions of the degree spectra of structures and of theories, that allows us to study and compare various degree spectra associated with a countable structure.

**Definition 1.** The degree spectrum of a countable structure  $\mathcal{A}$  with universe  $\omega$  under an equivalence relation  $E$  is

$$DgSp(\mathcal{A}, E) = \{\deg(D(\mathcal{B})) \mid \mathcal{B} \text{ and } \mathcal{A} \text{ are } E\text{-equivalent}\}.$$

Then the classical degree spectrum of  $\mathcal{A}$  is  $DgSp(\mathcal{A}, \cong)$ , the  $\cong$ -spectrum of  $\mathcal{A}$ , while the degree spectra of the theory of  $\mathcal{A}$  is  $DgSp(\mathcal{A}, \equiv)$ , the  $\equiv$ -degree spectrum of  $\mathcal{A}$ . In [1] we considered  $\Sigma_n$ -equivalence. We showed that there exist  $\Sigma_n$ -spectra that are not  $\Sigma_m$ -spectra for  $1 \leq m < n$ , and there are theory spectra that are not  $\Sigma_n$ -spectra.

In this talk we will explain our recent results on spectra and degrees of bi-embeddability. This is joint work with Dino Rossegger and Luca San Mauro.

## REFERENCES

- [1] E. Fokina, P. Semukhin, D. Turetsky, *Degree spectra of structures under equivalence relations*, submitted.