Modular group, ribbons and solenoids

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I will discuss the limit space F of the category of coverings C of the "modular interval" as a deformation retract of the universal arithmetic curve, which is by (my) definition nothing but the punctured solenoid S of Penner. The space F has the advantage of being compact, unlike S. A subcategory of C can be interpreted as ribbon graphs, supplied with an extra structure that provides the appropriate morphisms for the category C. After a brief discussion of the mapping class grupoid of F, and the action of the Absolute Galois Group on F, I will turn into a certain "hypergeometric" galois-invariant subsystem (not a subcategory) of genus-0 coverings in C. One may define, albeit via an artificial construction, the "hypergeometric solenoid" as the limit of the natural completion of this subsystem to a subcategory. Each covering in the hypergeometric system corresponds to a non-negatively curved triangulation of a punctured sphere with flat (euclidean) triangles. The hypergeometric system is related to plane crystallography. Along the way, I will also discuss some other natural solenoids, defined as limits of certain galois-invariant genus-0 subcategories of non-galois coverings in C.