



**Spektr-RG paper model.
Scale 1/48.**

**Спектр-РГ Бумажное моделирование.
Масштаб 1:48.**

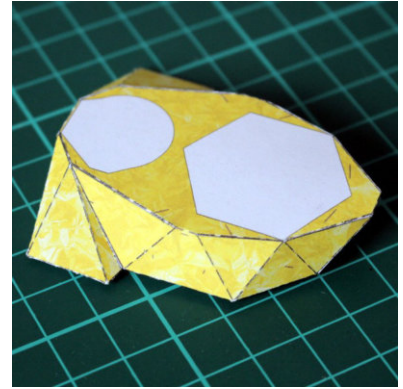
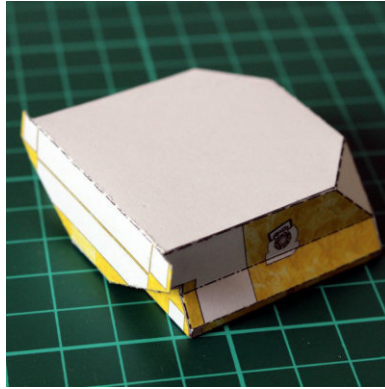
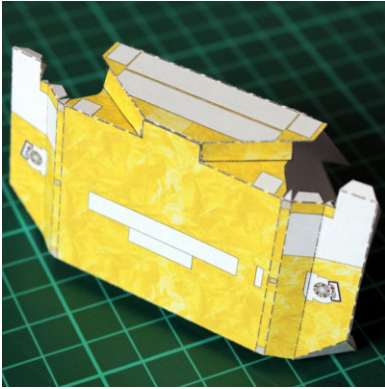


Build your own Spektr-RG!

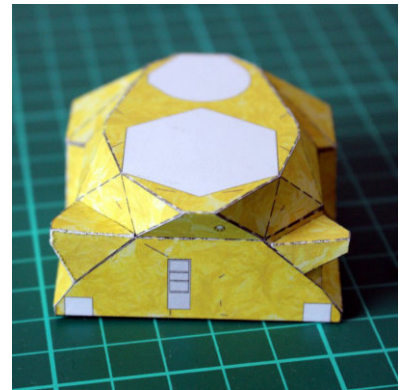
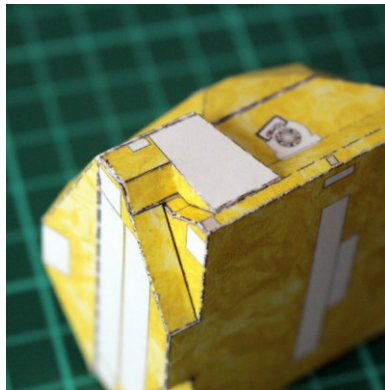
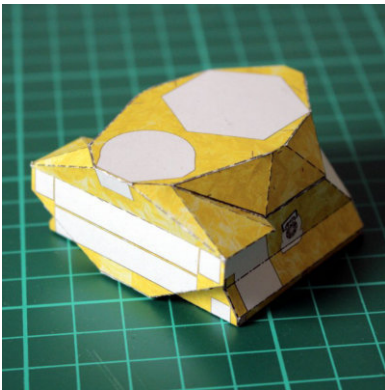
This paper model kit provides you with all parts to make your own X-ray observatory. The only things you need to build it are a pair of fine scissors, a sharp knife and a needle, glue and a wooden cocktail stick with a length of 20 cm or more.

The kit is in 1/48-scale when printed at 100%. Make sure to de-activate printer settings like “fit to page” or similar when you print it. There are 5cm scale bars on each page to check your settings. The pages are designed to be printable on either A4-sized or Letter-sized paper. For stability reasons, use paper with a weight between 120-160 g/m².

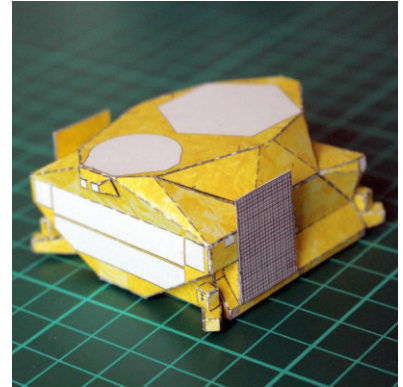
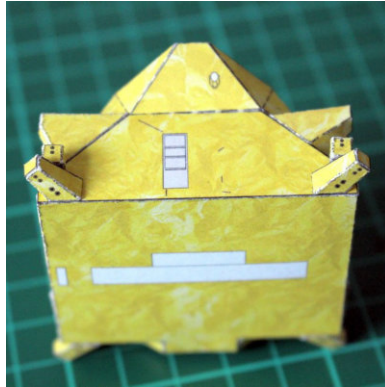
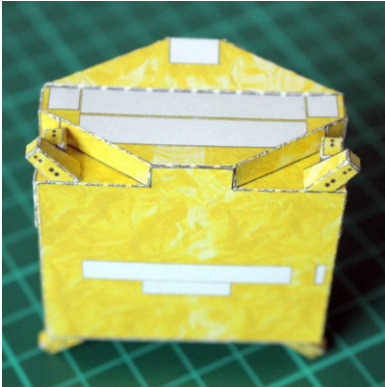
Now let's start with the build on the following pages!



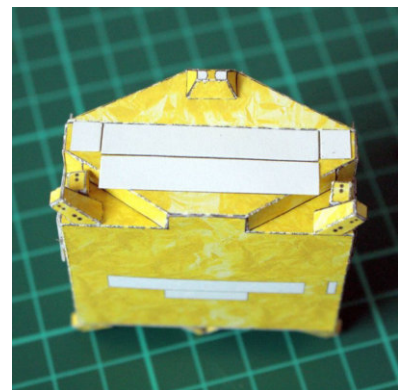
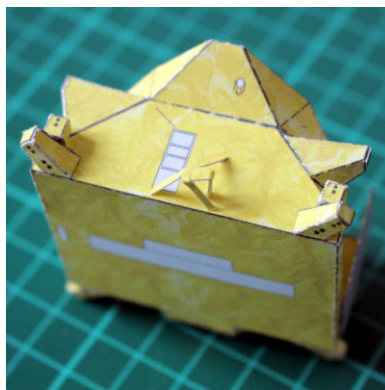
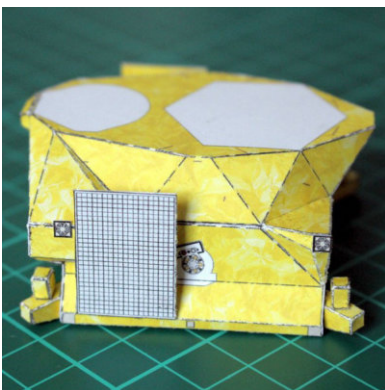
Fold parts 1 and 2 and glue them together, working from the front to the back as seen in the photos. The resulting structure represents the main part of the Navigator-satellite platform. Fold and glue part 3 to the instrument interface structure seen above.



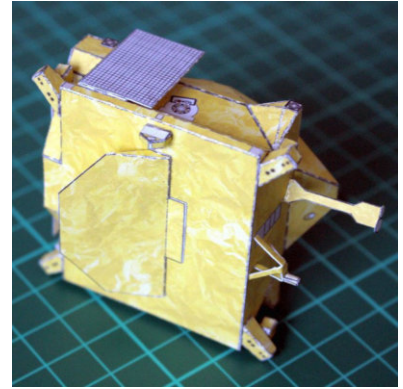
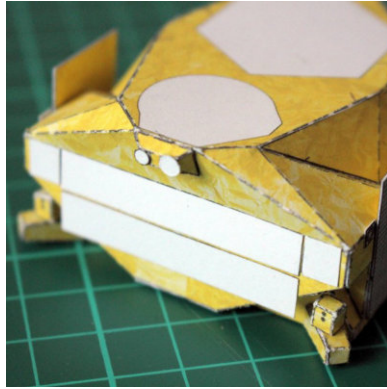
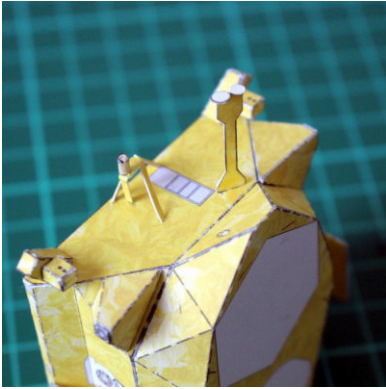
Glue part 3 to the top of part 2. Assemble parts 4 and 5 and glue them to the side of part 1 as shown above. Repeat the same with parts 6 and 7 on the other side. Fold and glue part 8 to a pyramid-like object and glue it to the white, triangular surface on part 1. Do the same with part 9 on the other side.



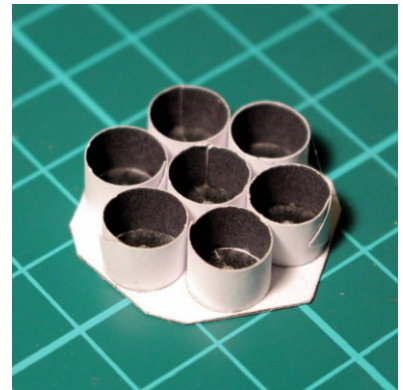
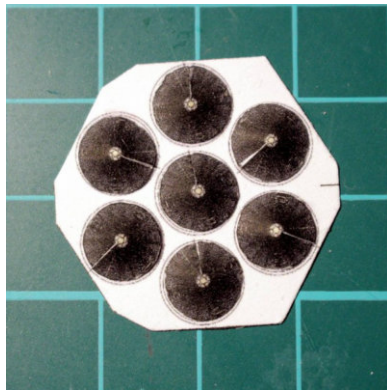
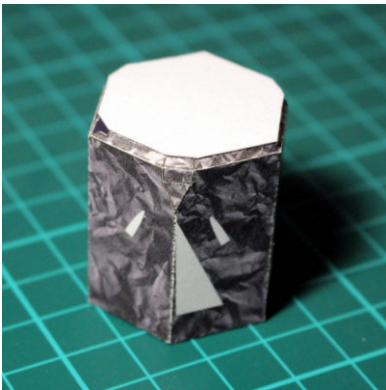
Assemble one of part 10, 11, 12 and 13 each and glue them to the small, white rectangles on the front of part 1, as seen on the picture. Repeat the same on the backside. Fold parts 14 on the centreline and glue them to the large white areas on parts 4 and 6. Add part 15 to the front of part 3.



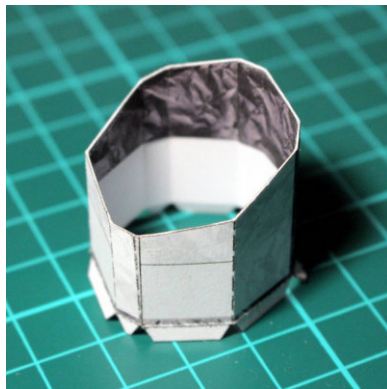
Add parts 16 to the small white rectangles on parts 4, 6, 8 and 9. Laminate part 17 before cutting it out. Fold it as seen above and glue it to the backside of part 2. The attachment points are marked with thin dark lines on the part. Add parts 18, 19, 20 and 21 to the front.



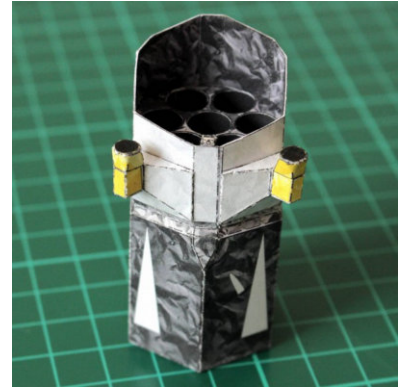
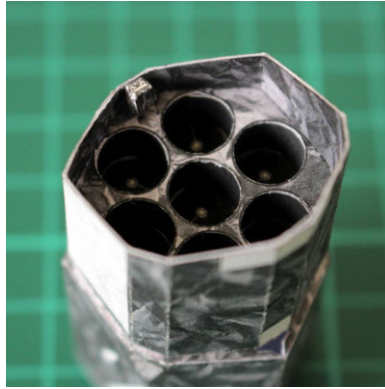
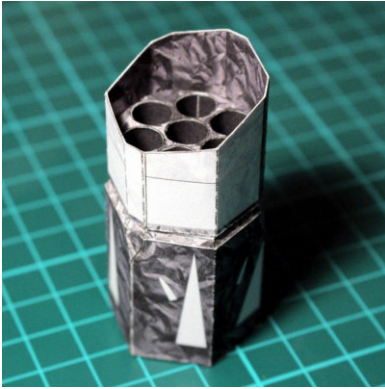
Roll a small cylinder from part 25 and add it to the top of part 17. Add part 22 to the same face of part 2. You need to make a cut into part 2 with a sharp knife to insert the flap. Refer to the image above. The location for the cut is marked with a dark line. Glue one part 23 and one part 24 to the far side of part 22. Do the same on the two white areas of part 15. Assemble part 26 and glue it to the small white area on the bottom of part 1. Assemble part 27 as seen above and add it to the large white area of part 1. Let dry.



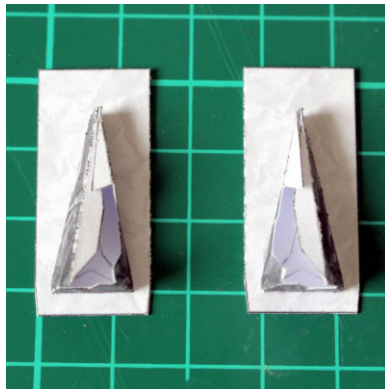
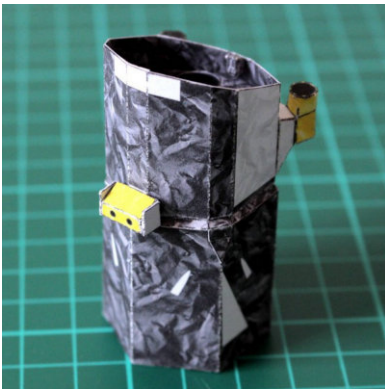
Now start with the eROSITA instrument. Assemble part 28 to a 6-sided tube. Add part 29 at the bottom. Glue part 30 and 31 to the top. Take care to align them correctly: The glue seam of part 28 needs to align with the central triangle of part 30. Form small cones from parts 33 and glue them to the circles of part 34. The seams of parts 33 align with the marks on each circle. Roll parts 32 to cylinders with the dark side on the inside and glue the flaps to the outside. Glue one cylinder around each of parts 33.



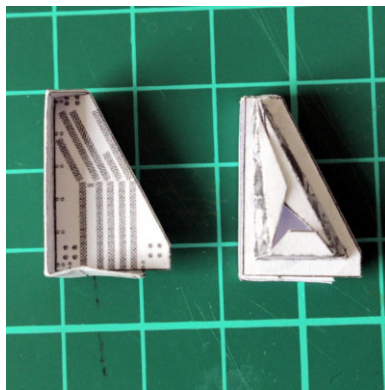
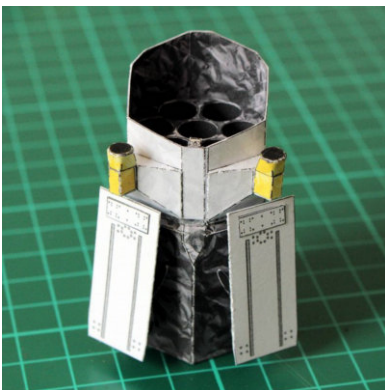
Add part 35 on top. You should be able to see 7 small X-ray telescope tubes through the holes in part 35. Make sure to align it properly with part 34. Fold and glue part 36 to a 10-sided tube, and add part 37 around it as seen on the pictures. Add small amounts of glue to the flaps of part 35 and slide it into the tube until it aligns with the bottom edge of part 35.



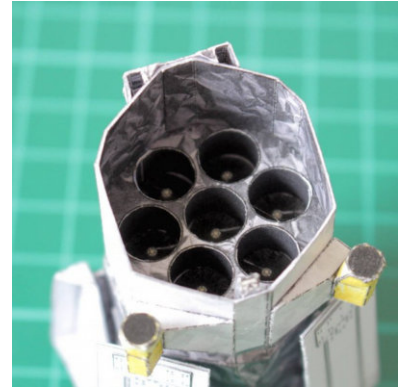
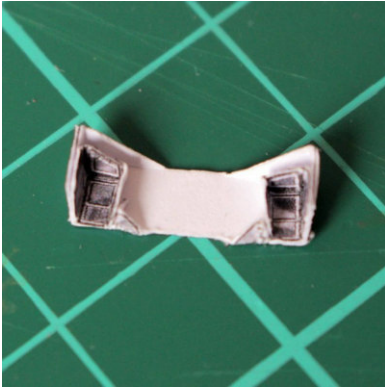
Add the assembly on top of part 31. Check the alignment with the photos. Form a small box from part 38 and glue it to the small white rectangle on part 36. Add the star trackers to eROSITA: First glue together parts 39, 40 and 41, then glue them to one of the white rectangles on part 37. Refer to the pictures for correct alignment. Repeat the same with parts 42, 43 and 44.



Form an angled box from part 45 and assemble the two parts 46 on each side, aligning the white surfaces. Glue the assembly to the back of eROSITA as shown above. Fold and glue part 47 along the centre line. Add part 49 to the back side on the triangular area. Make sure that the two cut-outs are on the opposite side to part 47. Do the same with parts 50 and 52. Add parts 64 to the lower body of eROSITA by glueing only the white tips to the respective areas on part 28. The remaining parts of parts 64 should be folded away.



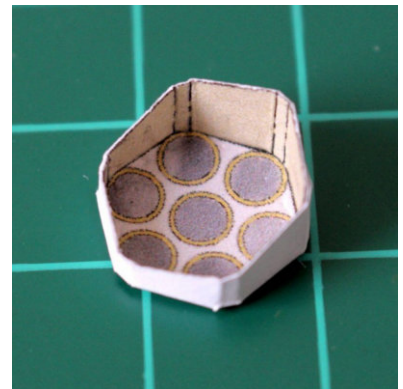
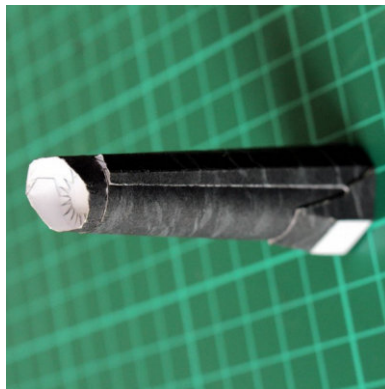
Glue the assemblies of parts 47 and 50 to the white areas under the star trackers. The cut-outs in parts 49 and 52 allow parts 64 to run below them. Add parts 48 and 51 to the rectangles on parts 47 and 50. Assemble part 55 by sandwiching its flaps between the two large, central surfaces. Then add part 56 to its back. Repeat the same with parts 53 and 54. Glue the assemblies to the sides of eROSITA's lower body as seen above.



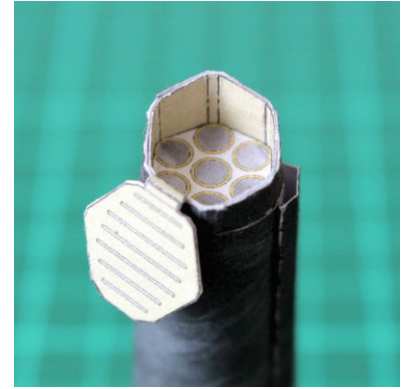
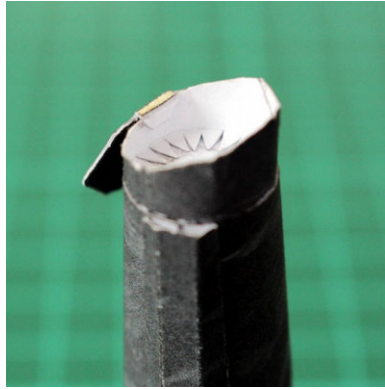
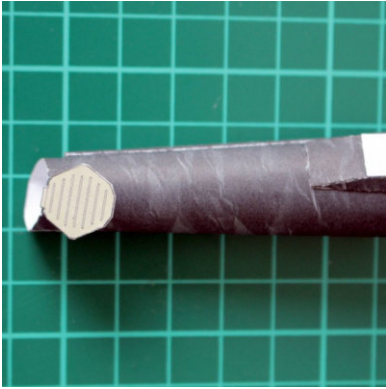
Assemble parts 57, 58 and 59 as seen above. Note that parts 58 and 59 are glued to the uncoloured side of part 57. Then glue part 57 to the top of part 37. Two channels, formed by parts 58 and 59 should be visible on the top as seen above.



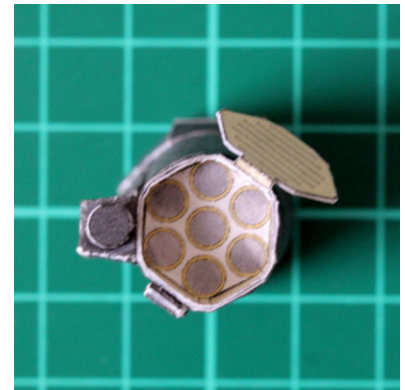
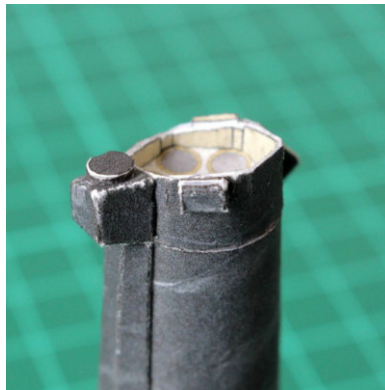
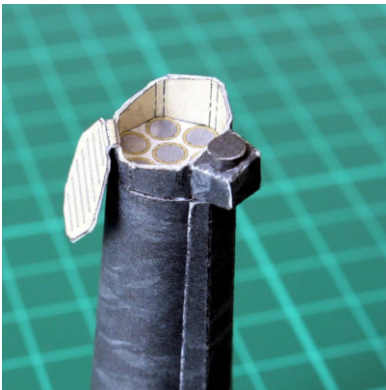
Assemble part 60, and glue the small boxes made by two parts 62 to the sides as seen on the picture. Repeat the same with parts 61 and the remaining two copies of parts 62. Then fold part 63 along the centreline and fix it with glue. The white ends of parts 60 and 61 are glued to the white areas on part 63, and the opposite side of parts 60 and 61 are glued to the white rectangles on part 57, finishing eROSITA by giving it its lid. Now start the second instrument onboard Spektr-RG, ART-XC, by carefully shaping part 65 to a tapered tube, and fixing it with glue. Glue part 69 to the inside of the narrow end, with the flaps running to the inside and the circle flush with the rim.



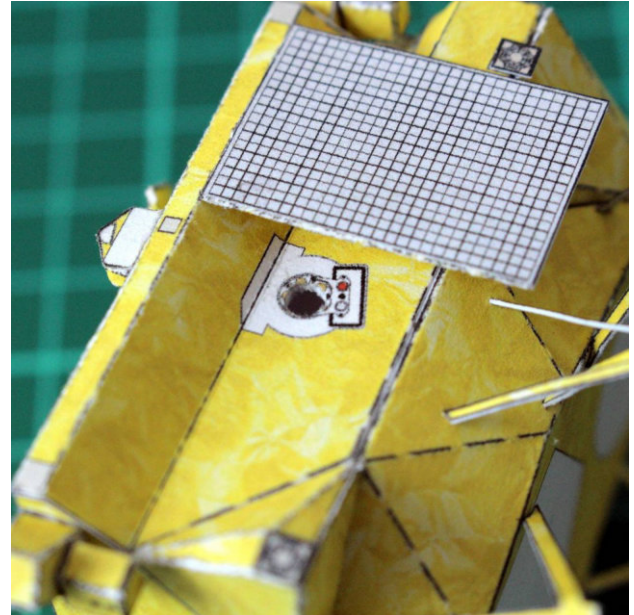
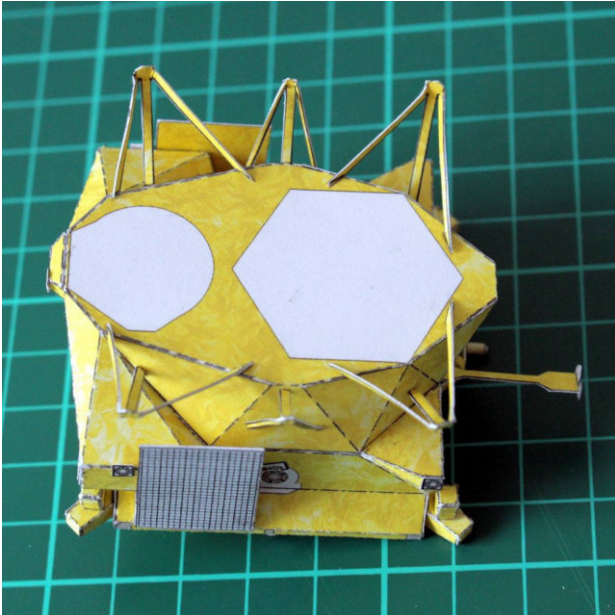
Glue part 66 to the long, white area running around the seam line of part 65. Then add part 67 and 68. Form a ring from part 70 and glue it onto the narrow end of the tube. Take care of the orientation: The lowest edge of the ring aligns with the centre of the white rectangle on part 67. Form a ring from part 71 with the coloured surfaces on the inside. Glue part 72 to its inside as seen above.



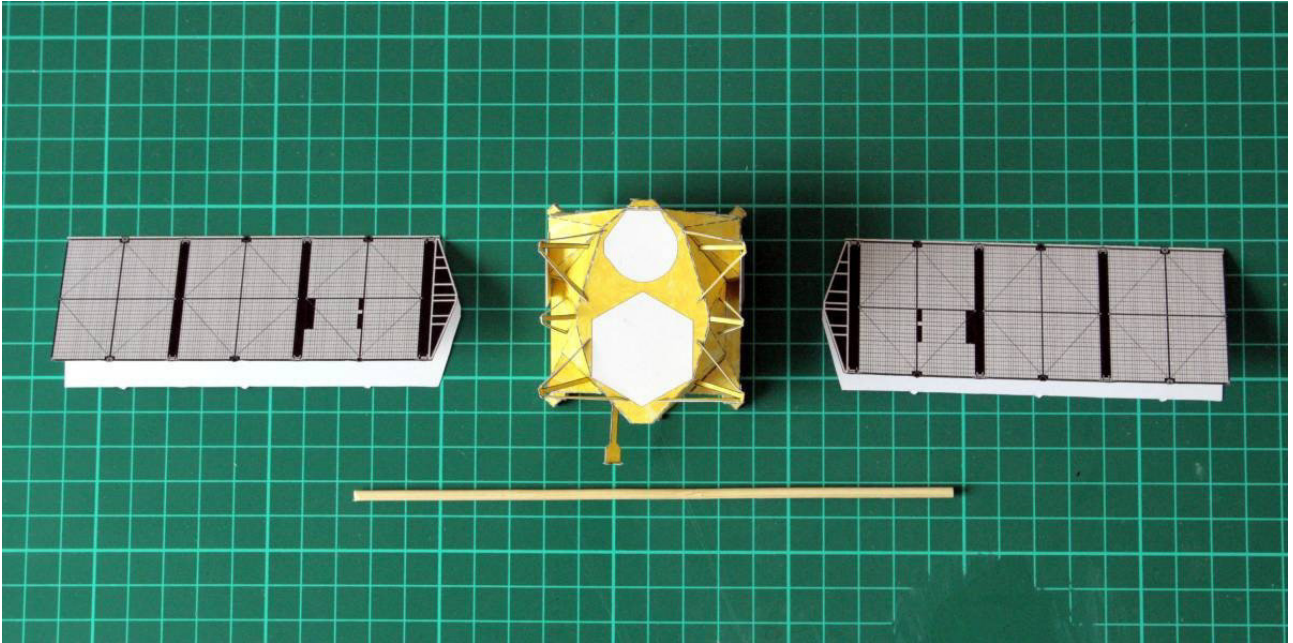
Double-up part 73 along its centreline. Fold the flap towards the dark side using two seam lines. Glue the flap to the inside of part 70, just next to the lowest point as seen above. Then glue the rim of part 71 to the inside of part 70, aligned at the top.



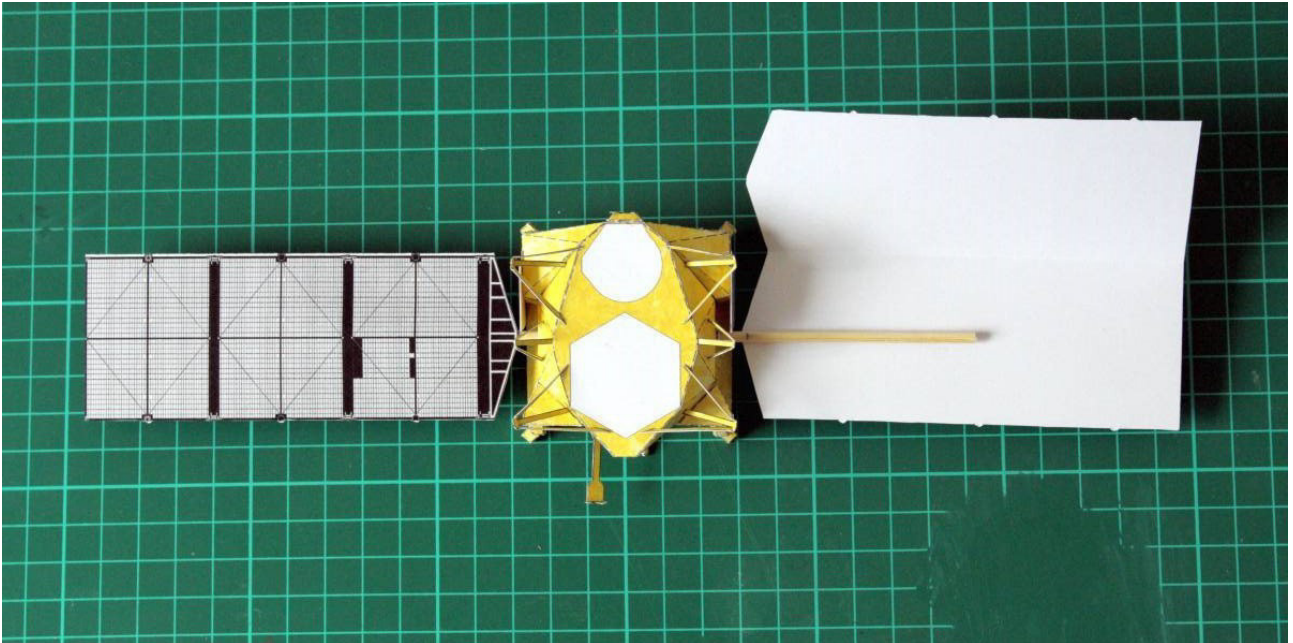
Form a tapered box from part 74 and add the stub of a cylinder formed by part 75 to the with circle on part 75. Glue part 74 to part 70 as seen on the picture, just above the end of part 66. Then make a box from part 76 and glue it to the side of part 70 next to part 74 and opposite to where you added part 73. Check the alignment of all parts with the picture above. Let dry.



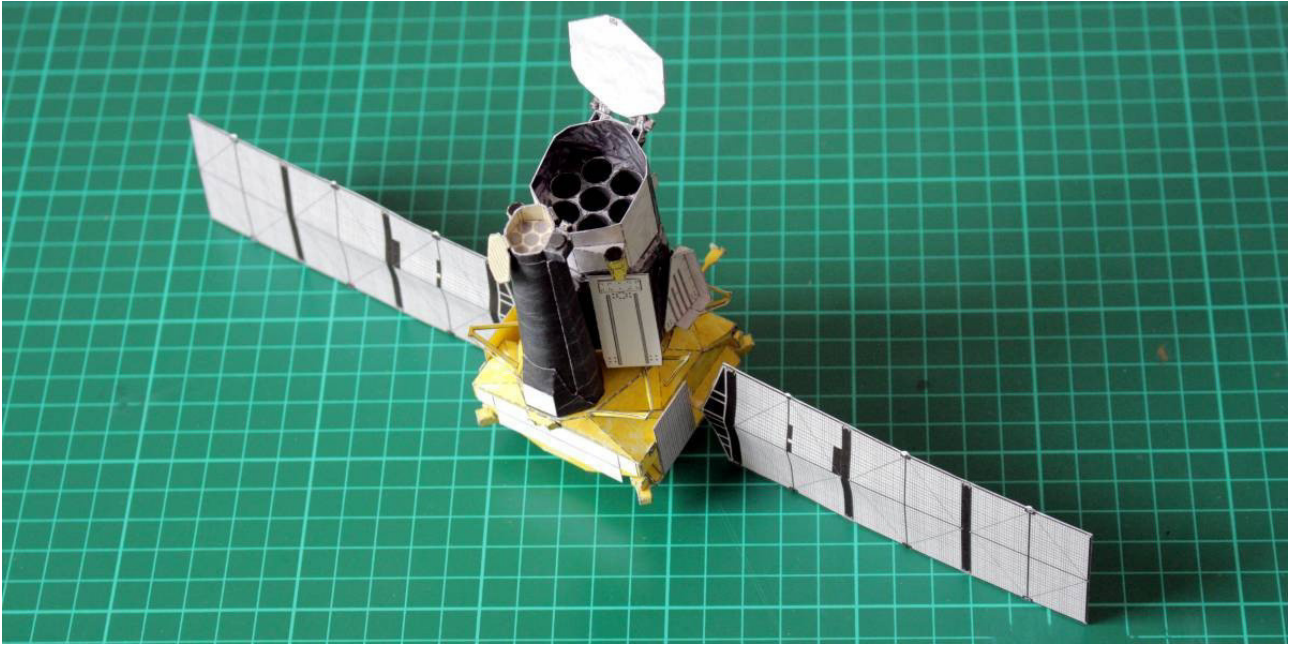
Take again the Navigator assembly. Laminate two versions each of parts 77, 78 and 79. Fold the long arms of those parts as seen above and glue the ends to the small dark marks on the Navigator model. Parts 77 go on each side of the white circle on top of part 3, and parts 79 go next to the white hexagon. Parts 78 are glued in between. Now take a needle and pierce a hole to the centre of the white circles on each side of part 1, and widen it with the cocktail stick.



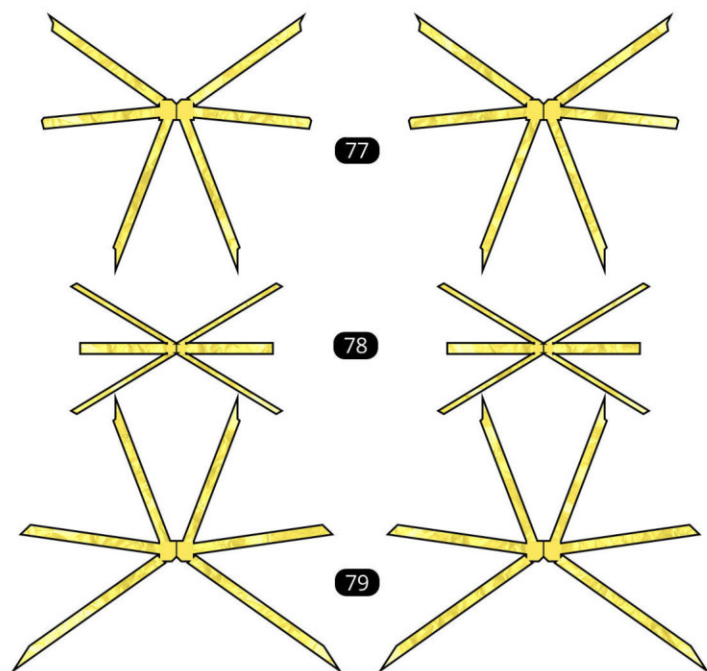
Cut out parts 80 and 81 and fold them. Lay both parts to the side of the Navigator assembly, and make sure everything is oriented as in the picture.



Push the cocktail stick through the holes in the Navigator assembly you just created, leaving ends of equal length stick out on each side. Then glue parts 80 and 81 around the sticks as seen above.



Add eROSITA and ART-XC to the white hexagon and circle on part 3, and enjoy your own finished Spektr-RG!

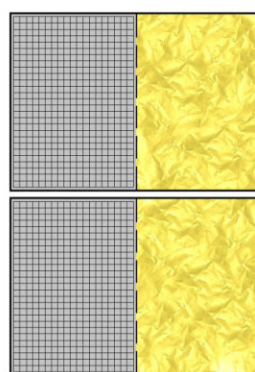


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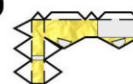
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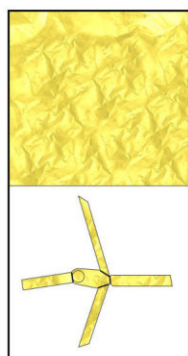
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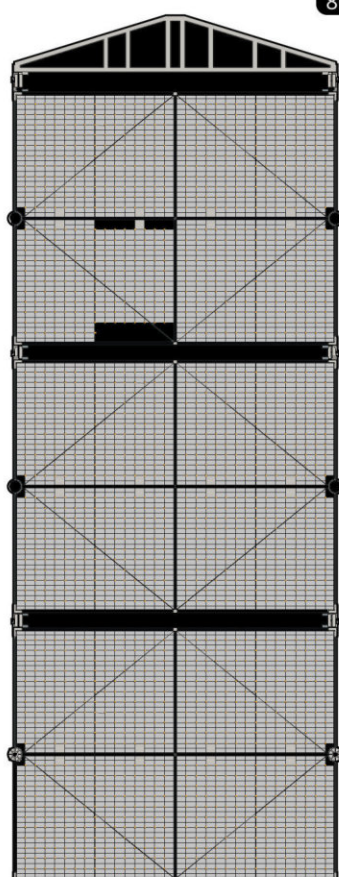


5 cm

17



80



81

