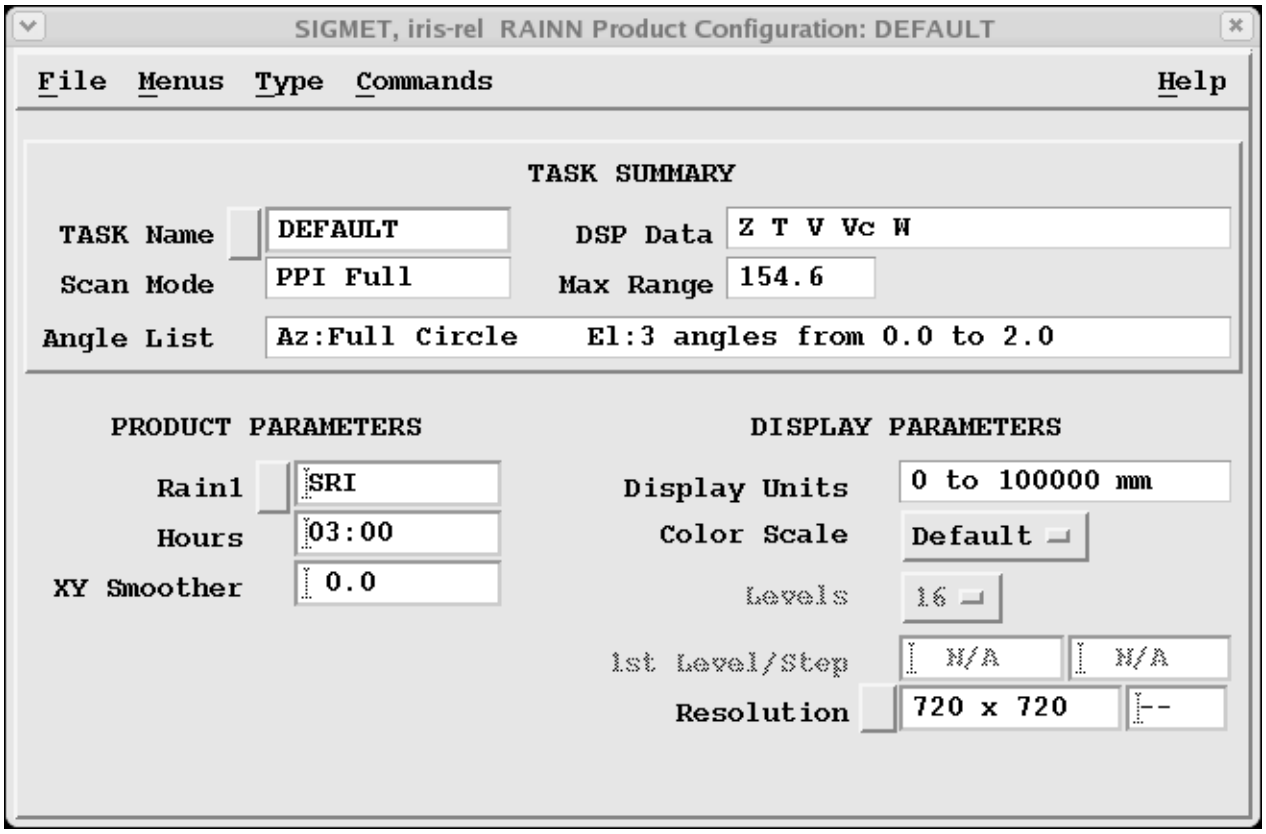
2.10 RAINN: N-Hour Rain Accumulation



This section describes the fields of the Product Configuration menu that are unique to RAINN products. For general information, see these other sections of this chapter:

- Task Summary area, Section 2.1.1.
- Map Projection Area, Section 2.1.2
- Product Parameters, see Section 2.1.3.
- Display Parameters area, Section 2.1.4.

The RAINN product is unique — it is a product of a product. You can sum any number of hours of individual RAIN1 products. The only limitation is the number of RAIN1 products stored on disk. The product output shows the last N hours of accumulation.

When you specify the name for the RAINN product, it is a good idea to indicate the integration time in the name, as in 03_HOUR in the example above. This makes it easier to identify the product in the Product Scheduler and Product Output menus.

To open the RAINN Product Configuration menu:

Choose **Type–>RAINN** from the menu bar.

Rain1

In the Rain1 field, specify the product name of the input hourly RAIN1 product. You can click on the Rain1 button and choose from a list of products, or enter the name directly into the field.

When you enter a product name, the associated TASK information is displayed in the TASK Summary portion of the menu.

Hours

Specify the number of hours to integrate. When the product runs, it integrates data for the last N hours. If a RAIN1 product is missing for one of the hours in the interval, the algorithm assumes that no rain fell during that hour. The product output shows how many hours were actually integrated.

Color Scale, Levels, and 1st Level/Step

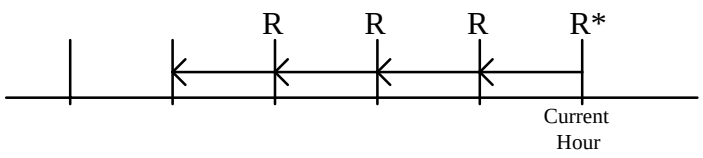
The color levels can be specified, but the resolution is fixed by the resolution of the RAIN1 configuration.

2.10.1 Scheduling RAINN Products

In the Product Scheduler, the Data Time field refers to the end of the period for which you are integrating. The Skip Time field can be used if you want only the accumulations for specific time intervals. For example, if you want a 3-hour integration only for the periods ending at 03:00, 06:00, 09:00, ..., set the Skip Time field to 03:00.

The scheduling algorithm for the RAINN product looks for the arrival of the most recent RAIN1 product (after the "current hour") and then runs the RAINN algorithm. There are two cases that the product scheduler must handle, i.e., the RAIN1 product either arrives or it doesn't arrive. These are illustrated below. Note that in the time-line figures below, the horizontal line represents "the data time" of the RAIN1 products which is always exactly on the ending hour. The "R" represents an input RAIN1 product and R* represents the current hour RAIN1 product whose arrival triggers the RAINN product to run. The vertical bars represents even hours. The examples are for the case of a 4-hour integration.

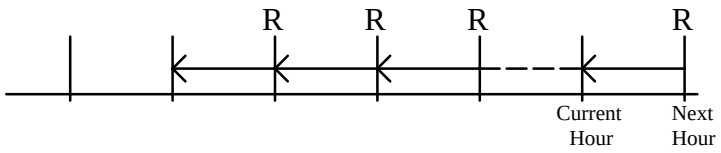
Case 1: Normal Case: The current hour RAIN1 product arrives



In this case, the current hour RAIN1 product arrives (R*). The algorithm runs on this and the prior RAIN1 products that are available over the previous 4 hours.

The two cases below are when the Current Hour RAIN1 does not arrive.

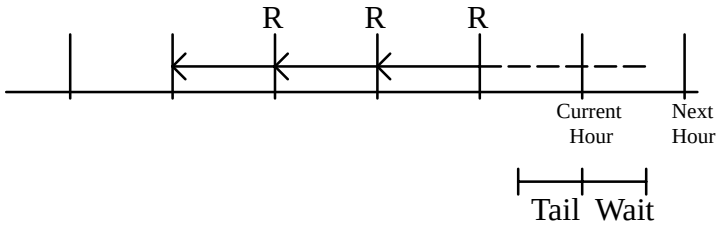
Case 2: Current hour RAIN1 does not arrive, but next hour RAIN1 does



In this case, the current hour RAINN does not arrive so the scheduler waits. Eventually the next hour RAINN arrives, so the scheduler assumes that the current hour RAINN will never arrive and runs the product on the available RAIN1's, without the current hour data.

If the Current Hour RAIN1 eventually arrives, it does not trigger the scheduling algorithm since the "Next Data Time" in the Product Scheduler will have already advanced to the next hour. However, it will be used in future RAINN processing, i.e., for the next hour.

Case 3: Current hour RAIN1 does not arrive, but Wait time expires



In this case the RAINN product will run after the "Tail" and "Wait" times have elapsed. The Tail time is the time on the local computer between the arrival of the most recent RAIN1 and the current hour. The Wait time threshold is configured in IRIS Setup/Product to account for network delay.

If the Current Hour RAIN1 eventually arrives, it does not trigger the scheduling algorithm since the "Next Data Time" in the Product Scheduler will have already advanced to the next hour. However, it will be used in future RAINN processing, i.e., for the next hour.